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ABSTRACT

The Virginia Community College System (VCCS) master plan presented in this report is designed to manage the system and its 23 comprehensive community colleges during the years 1982 through 1990. First, chapter I presents an executive summary of the plan, the process of its implementation, and recommendations for policy changes in key areas. Chapter II outlines the context for master planning in Virginia, and chapter III discusses the VCCS planning process. Chapter IV outlines actions of the State Board for Community Colleges on the VCCS's mission, goals, planning assumptions, and strategic objectives. Chapter V presents methods of plan management and highlights four primary management activities associated with the master plan. After chapter VI describes the organization of the community college system in Virginia and presents major issues facing the colleges, chapter VII provides an overview of educational programs, including new programs recommended for 1984 to 1986. Chapter VIII highlights the VCCS manpower training partnership with business, industry, and government, and presents results from a survey of the role of the state's colleges in serving the training needs of those sectors. Information on VCCS enrollments is presented in chapter IX, while chapters X, XI, and XII contain data on finances and personnel, facilities, and support services. Appendices include a summary of existing and proposed programs and standardized criteria for program planning. (HB)

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VIRGINIA COMMUNITY COLLEGE SYSTEM MASTER PLAN

1982 - 1990

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Dr. Perry R. Adams, Chairman - Vice Chancellor for Academic Affairs and Planning

Dr. Thomas L. Barnes, Dean of Student Services - Wytheville Community College

Dr. Stuart M. Bounds, Dean of Financial and Administrative Services - Thomas Nelson Community College

Mr. Richard Calver, Dean of Financial and Administrative Services - Southwest Virginia Community College

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Dr. Robert J. Grymes, Jr., Dean of Instructional and Student Services - Tidewater Community College

Dr. Joseph G. Rossmeier, Director of Planning, Research and Management Services - Northern Virginia Community College

Dr. James C. Sears, Provost, Frederick Campus, Tidewater Community College

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Dr. Bryan Brooks, President - Southside Virginia Community College

Dr. S. A. Burnette, President - J. Sargeant Reynolds Community College

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Christine J. Miles

Christine J. Miles, Chairman
State Board for Community Colleges

James H. Hinson, Jr.

James H. Hinson, Jr., Chancellor

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I.

EXECUTIVE SUMMARY

A major concern of the State Board for Community Colleges is that the programs and services offered by the System of community colleges in Virginia continue to serve the interests of the Commonwealth and her citizens. The comprehensive mission of these colleges has enabled the Commonwealth to extend higher education programs and services to more Virginians in the last sixteen years than in any other period in history. This goal has been accomplished through an open-door admissions policy combined with comprehensive programs and services that are relatively inexpensive, and that are located within commuting distance of citizens throughout the state. The emphasis of the community college mission on occupational-technical programs and the dispersion of programs throughout Virginia's geographic regions, have placed these colleges in a unique position to support the economic development of the Commonwealth and to meet business-industrial education and training needs.

The State Board for Community Colleges at its Annual Meeting in November, 1981, reaffirmed the comprehensive mission of the Virginia community colleges. This act of reaffirmation occurred because the State Board believed that the mission makes a major and distinctive contribution not only to the Commonwealth and her citizens, but also to the diverse system of public higher education in Virginia. At the time of this action, the State Board also recognized that changing economic conditions will critically limit resources available to public institutions in future years. Within this constraint, the State Board acknowledged that the authority to govern implies responsibility to use tax dollars wisely and to account willingly for public funds expended by community colleges. To execute this responsibility, the State Board for Community Colleges initiated the development of a master plan for the System of twenty-three community colleges in Virginia.

This comprehensive ***VCCS** Master Plan* is a planning document that was developed, at the initiation of the State Board in November 1980, to manage the Virginia Community College System and its twenty-three comprehensive community colleges. Twenty-three master plans developed by each of the colleges complement this *Plan*. A statewide perspective and the major directions for the System are found in the *VCCS Master Plan;* college plans show the directions each college will take in future years to respond not only as part of a System to educational needs statewide, but also to respond to the unique needs of localities throughout the state. When this comprehensive *Plan* is approved by the State Board for Community Colleges, guidelines for institutional planning, and a process, with specific criteria for college master plan review, will be developed. The review process will ensure that college master plans are consistent with the *Plan* for the System. In addition to the review process, several additional factors integrate System-level and college-level master planning to include:

A. The comprehensive community college mission, reaffirmed by the State Board for Community Colleges in November, 1981;

B. A set of systemwide planning assumptions; Educational Program Goals; Operational Goals; and Strategic objectives;

C. An educational program review and approval process to be used to rank, according to priority categories, proposed educational programs for the System;

D. A set of criteria to establish VCCS facilities priorities and a recommendation for a maintenance management program at each college;

E. A long-range resource allocation program for the System that will support the priorities among educational programs and services approved by the State Board for Community Colleges;

F. Recommendations to assess the vitality and effectiveness of the VCCS;

G. Recommendations to develop legislative and public relations plans for the System;

H. A schedule to implement, evaluate, and update the *VCCS Master Plan*.

Educational program planning is fundamental to VCCS master planning. For this reason, the Educational Programs chapter of this *Plan* was the first chapter to be developed. Portions of the chapter were published separately as the *Educational Component* in July, 1982. The chapter provides a thorough analysis of existing and proposed occupational-technical and college transfer programs. All proposed programs recommended by the State Board for Community Colleges to the State Council of Higher Education for Virginia for approval, were reviewed and ranked according to standards developed by a Task Force of Deans of Instruction and Provosts in consultation with the Vice-Chancellor for Academic Affairs and the central Planning and Evaluation staff. Of principal interest in the VCCS Academic Program Review and Approval process were two concerns. The first was the local, regional, and statewide employment opportunities for program graduates. The second concern was the projected student demand for these programs. Five-year trends in the number of students enrolled in and graduated from programs similar to those proposed, the characteristics of students enrolled in various programs, and the costs associated with initiation of new programs were also considered in the review process. To ensure that proposed programs did not unnecessarily duplicate those already offered in a region or a local community, the programs offered throughout the VCCS and by other public and private institutions were considered.

The Educational Programs chapter focuses primarily upon the review and approval of occupational-technology programs. Several findings on the viability of the VCCS clusters of technology programs are notable. Agricultural and Natural Resources Technology programs, with the exception of the horticulture program, are low in student demand. The Arts and Design Technology programs, overall, are growing--especially in the field of graphic communications.

Programs in the Business Technology, Engineering and Industrial Technology, and Health Technology clusters are also growing in terms of student demand and the demand of the marketplace. Of these three clusters, growth in data processing, nursing and related health occupations, and in opportunities for engineering and science technicians, are reflected both in student-employer demand and in the programs proposed by the colleges for 1984-86. Public Service Technology programs show a decrease in enrollment in the protective services area, and enrollment increases in the human services programs.

Several major recommendations, upon which the VCCS should focus attention in the next year, resulted from completion of the chapter on educational programs. These recommendations are as follows:

- That a VCCS Task Force be convened to develop a standard methodology to attain occupational outlook information for businesses and industries in local communities across the state.

- That prior to the review of the programs and majors proposed for the 1986-88 biennium, two actions should be taken: (1) The data available from the 1980 U.S. Census should be assessed by VCCS-college staff to determine shifts in Virginia population characteristics and in employment statistics. (2) The Virginia Employment Commission's revisions to the current Occupational Employment Statistics program, which will project statewide employment opportunities to 1990, should be reviewed.

- That a VCCS Task Force be convened to study the programs in the cluster: Agricultural and Natural Resources Technology and make recommendations concerning the future of these programs.

Concerning the allocation of financial resources to sustain quality educational programs and services in future years, the *Plan* recommends that new programs be funded through a reallocation of funds and positions to correspond to the priorities of each college. In many instances, funds for new programs will be made available as programs of lower priority are deleted. When industries and technologies that do not presently exist in the state are established, the *Plan* recommends that the State Board for Community Colleges request additional funds for related programs from the General Assembly. That the colleges and System Offices assess options such as leased or shared facilities, alternate instructional delivery systems, renovation of existing space, and changes to course schedules, as alternatives to new construction, are recommendations that indicate the ways in which community college facilities will be managed in future years. A maintenance management program at each college is an additional recommendation designed to conserve state funds expended for facilities that support educational programs and services.

In future years, the student demand for community college programs and services is expected to continue. Most demographic projections indicate that a substantial decrease in the 18-24 year old population will occur. At the same time, however, these decreases will likely be offset by large increases in older age groups that will likely enroll in community colleges to train and re-train for changing job market opportunities.

Consistent with the State Board for Community Colleges' reaffirmation of the mission, the *Plan* recommends that enrollments be managed to support the comprehensive mission and its emphasis upon occupational-technical, transfer, and developmental education. It also recommends that an essential core of student development services be identified and that both quantitative and qualitative measures be established to evaluate these services.

Issues related to VCCS industry, business, and government manpower training activities were identified for the planning period in a recent survey. To address these issues, the *Plan* makes several recommendations to include:

1) that the VCCS develop effective methods to assess local, regional, and state requirements for manpower training and retraining;

2) that articulation and coordination of manpower training provided by various institutions be improved to eliminate unnecessary duplication among programs; and

3) that the VCCS expand cooperative education to all colleges and examine its potential to supplement the federal reduction in student financial aid.

A final comment on the planning process is an important caveat to this comprehensive *Master Plan*. To be effective, planning must be a continuous process. Throughout this *Plan*, issues are addressed through strategic objectives developed to implement the ten VCCS Operational Goals and through recommendations that appear in each chapter of the *Plan*. To ensure that the *Plan* becomes a working document for the System, the section on Plan Management indicates that by February 1983, strategies and time frames to achieve objectives and to implement the recommendations will be established as a next step in the VCCS planning process. This section notes also that the System Offices staff will also begin immediately to develop processes and time frames to integrate fully college master planning with VCCS systemwide master planning and to review and update the *VCCS Master Plan* by June 1984.

II

THE CONTEXT FOR MASTER PLANNING IN VIRGINIA

THE CLIMATE FOR HIGHER EDUCATION

The effect of unbridled change on the future is a current theme which permeates all sectors of higher education. The most profound changes have created a climate of uncertainty; moreover, such changes are external to higher education and often their effects can not now be anticipated. Numerous changes for higher education are in the offing because of such factors as persistent inflation coupled with high interest rates; public skepticism about the strength of the economy, and the future employment outlook; and the reduction of the federal government's role in educational and social programs. Two conditions will have a critical effect upon higher education. The first is that the resources available to the Commonwealth's public higher education institutions will be limited. Secondly, federal initiatives aimed at providing financial support to students of higher education or funds for programs that improve or extend learning opportunities throughout higher education will be reduced. Consequently, institutions accustomed to growth will have to adapt to limited growth, and in some instances, a decline in growth.

The change in federal role, taken alone, signals a dramatically different environment in Virginia. State revenues have been decreased because the state, in large part, conforms to federal tax rules. At the same time, the total **federal** support allocated to Virginia for higher education has decreased. Greater demands have also been placed on the Commonwealth's shrinking revenues because the New Federalism has resulted in a return to the states of the responsibility for educational and varied social programs. Student financial assistance, which has been reduced at the federal level, is one such program where Virginia will be faced with examining alternatives for subsidizing the education of students. Because access to higher education is a continuing goal for the Commonwealth, some of the alternatives, in addition to drawing upon the resources of the private sector, may draw also upon state resources. This example of the state's changed role in an area of responsibility, previously assumed by the federal government, serves to illustrate an important point concerning the changed environment. It is this: limited state resources will have to be allocated to meet priorities set between past commitments and additional new demands which compete with them.

SPECIFIC CHALLENGES FOR COMMUNITY COLLEGES: MISSION, FUNDING, AND BEYOND

The climate described above will affect, in numerous ways, the System of community colleges in Virginia and the role of these colleges within the state's system of public education. Many issues, that will derive from this environment, will surface at a time when Virginia's commitment to increase post-secondary educational opportunities has been largely realized through the growth of the state's Community College System. Entering a new decade, therefore, these colleges must tackle many issues, resolve numerous problems and finally, set future goals.

None of the issues will influence the future more than two ranked highest in a 1981 survey of VCCS colleges and the System Offices regarding major issues that will affect Virginia's System of Community Colleges during the 1980s. The issues are these: *the future of the comprehensive mission and the financing of that mission.* These same issues were identified in a national study of community college financing conducted by Breneman & Nelson of the Brookings Institute. They observe:

> "More than any other sector of higher education, community colleges face a fluid future . . . Questions of financing policy, therefore, quickly become entangled in broader questions of educational purposes & priorities."[1]

Although the community college mission and its financing are closely related, the Virginia survey identified other specific issues that relate separately to the mission and to adequate funding to implement the mission. Concerning the mission, survey respondents noted that in future years it would be necessary to assess the degree of commitment to the comprehensive mission by the State Board for Community Colleges, the State Council of Higher Education, the General Assembly of Virginia, and the general public. That the uniqueness of each community college should be maintained to meet local community and regional needs was a concept also expressed by survey respondents. Recommendations to study alternative funding guidelines and formulas that are not necessarily enrollment driven, and to monitor the evolution of state finance policy were made by several colleges. A related but different issue, the goverance and management of the System, and the need to study the VCCS organization was also cited by survey respondents.

A high ranking was also given to issues that relate to the quality of educational programs and to recruiting, developing, and retaining qualified faculty and staff to support these programs.

Concerning program quality, the survey respondents indicated a need to use both quantitative and qualitative standards to evaluate educational programs. The need to identify standards and criteria to plan and evaluate programs, and to be accountable for them were specific objectives cited. The assessment of employment opportunities, the placement of students in program-related occupations and the success of students who transfer were other specific issues, related to program evaluation, cited by a number of respondents. The relationship between program quality and maintenance of up-to-date equipment was also frequently noted.

The survey respondents indicated that an appropriate ratio of full-time to part-time faculty; faculty/student funding ratios; professional development funding; competitive salaries and benefits for faculty and staff; and a process to evaluate faculty were issues that should be addressed by the VCCS master planning process.

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[1] David W. Breneman & Susan C. Nelson, Financing Community Colleges: An Economic Perspective, (Washington, D.C.: the Brookings Institute, 1981), p. viii.

An additional issue cited by survey respondents was based on the observation that although the student demand for programs and services offered by community colleges will undoubtedly continue in future years, the enrollment patterns of students that attend community colleges can be expected to shift. Respondents noted that monitoring and adapting to these shifts and at the same time enhancing program quality, will be challenges to community college planners in future years.

In view of the rising costs of education, issues related to accessibility were listed by many survey respondents. They cited the need for community colleges to retain the open-door admissions policy, to keep tuition as low as possible, and to monitor closely the reduction in federal financial aid programs. Also, the need for community colleges to plan and develop alternative instructional delivery methods was frequently cited by survey respondents.

THE GENERAL RESPONSE TO THE CLIMATE

In response to this new climate, educational leaders in Virginia, in concert with leaders within the executive and legislative branches of state government, have taken steps to ensure continuation of a well-managed, productive, and quality system of diverse public colleges and universities. To ensure that this goal is achieved, Governor Charles S. Robb, in a speech to the State Higher Education Executive Officers in March, 1982, described a plan of action which will set the future direction for higher education in Virginia. Throughout the speech, he indicated that future state planning should emphasize the natural links between higher education and other social commitments and economic priorities of the state. Specifically, he proposed an active and cooperative partnership between public higher education and private business and industry. To address the reduction in federal student financial assistance programs, he recommended that Virginia consider a statewide work-study program and a state loan program.

The Governor reaffirmed the Commonwealth's commitment to excellence, and urged that institutions raise admissions standards, relegate remedial education to elementary and secondary schools, where possible, and improve programs which prepare teachers. Elaborating further on his plan for higher education, the Governor emphasized that a systematic review and evaluation of academic programs be undertaken to ensure that these programs are of highest quality.

Two months later, the Governor focused exclusively on accountability in the public sector in an address to agency directors and state officials. He called upon them "to evaluate more critically their missions and goals" and indicated that he wished to "go beyond mere management controls and find out if we really get the results our citizens pay for."[2]

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[2] Richmond Times Dispatch, May 4, 1982, pB-3

THE VIRGINIA COMMUNITY COLLEGE SYSTEM RESPONSE TO THE HIGHER EDUCATION CLIMATE

The relationship between an organization and its external environment is a theme which undergirds the Governor's initiatives in the action plan for higher education summarized above. The plan is a guide to redirect the energies of Virginia's system of higher education to respond to changing conditions. Its goals, when achieved, will ensure that the public colleges and universities, together with the system of primary and secondary schools, serve essential purposes.

The State Board for Community Colleges endorses the Governor's action plan for higher education. His commitment to use limited resources in meaningful ways will require all agencies and institutions to offer those programs and services which are within the scope of their mission, which they are best able to provide, and which are most essential to the Commonwealth. The master planning process, initiated by the Board in November, 1980, for the system of twenty-three community colleges in Virginia has produced a plan to implement both the Governor's initiatives and the goals of the State Board for Community Colleges. This completed *Master Plan* will enable the VCCS to demonstrate that it is accountable for the programs and services it provides and for the public funds it expends. The Board wishes to reaffirm that the state's interest in the community college system will be of vital concern as it directs the future of these colleges.

Educational program planning. Educational program planning is fundamental to all other VCCS planning activities. To reinforce this perspective, the *Educational Component* (July 1982) was first developed, reviewed, and approved by the State Board for Community Colleges prior to the development of the remainder of the *VCCS Master Plan.* This component was then enhanced and incorporated into this *Plan* as the Educational Programs Chapter. The Board's contention is that to be accountable for the academic programs offered by the VCCS, extensive planning, to include program review, evaluation, and development is a requisite. Providing quality programs that keep pace with rapidly expanding knowledge and technology; that support both the economic and social development of the state; that meet the manpower demands of the labor force; and that balance society's need for employable graduates with the interests of students, are goals which have received special emphasis during the planning period. At the same time, evaluating the worth of community college programs and demonstrating their effectiveness have been sizeable and demanding tasks which have been given special consideration. These latter concerns ensure that community colleges offer only high quality and productive programs that have high employment or transfer possibilities, and that do not unnecessarily duplicate programs offered by other institutions.

The academic programs review and approval process. To support the Board's position and to plan academic programs that support the objectives described above, the Virginia Community College System Offices has reappraised and expanded its program review and approval process. The expanded process is designed primarily to enable the VCCS, as a system, to manage its academic programs and to allocate sufficient resources to essential programs in a manner that is not only equitable, but that supports quality programs for all twenty-three colleges.

The review and approval process is based first on the assumption that the process must be designed to assess the effect of many environmental factors on academic programs; and secondly, that occupational-technical programs, upon which principal emphasis is placed in the VCCS mission, must be justified, as appropriate, by statewide, regional, and local manpower demand. This emphasis enables the VCCS to continue its prominent role in the economic development of the state. Although the community colleges in Virginia serve primarily their local communities, because the colleges are located throughout all geographical regions of the state, they are also appropriately located to meet both regional and statewide demand for programs.

The demand for programs which are offered by the VCCS and by institutions external to the VCCS, have been a principal consideration in retaining existing programs or recommending approval for new programs. However, other factors must have also been given careful consideration in the planning process. Before continuing an existing program or initiating another program of the same type at a different location, for example, it was necessary to review indicators of student demand, as well as productivity, effectiveness, and costs of existing programs. An important complement to the review and approval process was a method for evaluating and ranking programs proposed by colleges for the remainder of the decade. The review and approval process, the method used to rank proposed programs, and a list of proposed programs recommended by the State Board for Community Colleges for initiation in the 1984-86 biennium, are presented later in the ***Plan***.

Additional ***Master Plan*** chapters are designed to link significant institutional operations to existing and proposed educational programs. These chapters address enrollment; finance and personnel; facilities; support services; and manpower training for business, industry, and government.

III

OVERVIEW OF THE VIRGINIA COMMUNITY COLLEGE SYSTEM PLANNING PROCESS

Plan initiation. At its Annual Meeting, in November 1980, the State Board for Community Colleges endorsed, in concept, the development of a *Master Plan* for the system of twenty-three community colleges in Virginia. To develop the ten-year *Plan*, a Master Plan Steering Committee, chaired by the Vice-Chancellor for Academic Affairs and Planning, was appointed by the Chancellor. A community college President; a Dean of Instruction; a Dean of Student Services; a Dean of Financial and Administrative Services; a campus Dean responsible for Continuing Education; and two Directors of Planning and Research from colleges located in different geographical regions have served on the Committee. The Steering Committee initiated a planning process to develop a *Master Plan* which will have application in a period when funds for higher education will not be unlimited. The *Plan* and its implementation is critical to the sound management of the VCCS as it fulfills its responsibility to offer quality programs and services that meet varied educational needs of citizens, and that advance the economic development of the Commonwealth.

Planning symposium. The planning process, because it was designed for a large and complex system, has included numerous and varied activities over the past eighteen months. To gain both a national and state-wide perspective on the social, economic, and demographic factors which are expected to affect community colleges during the 1980s, a Planning Symposium, in March 1981, was sponsored by the Steering Committee. Dr. Joseph P. Cosand, former U.S. Commissioner of Education, and speakers from Tayloe-Murphy Institute of the University of Virginia, the Virginia Department of Education, the Virginia Employment Commission, and the School of Engineering at Old Dominion University, participated in the Symposium.

Survey of major issues of the 1980s. Shortly after the Symposium, the VCCS presidents and their staffs, and the Chancellor and his staff, completed a Survey of the Major Issues of the 1980s. The purpose of this survey was to identify and rank issues that will confront local colleges, and the colleges as a System, as contrasted with those national and statewide issues identified at the Symposium. To respond to the Issues Survey, a single written response was submitted by each college and by the Chancellor's staff. In turn, each college president and the Chancellor, at his or her discretion, selected staff and Board members to participate in an interview conducted by System Offices planning staff. The purpose of the interview was to clarify and expand upon the written survey responses. A summary of the Issues Survey is included in this *Plan* as Appendix A.

Planning workshop. Another major planning activity was a June 1981 planning workshop, co-sponsored by the University of Virginia and the VCCS, in which teams of institutional and System Offices planners participated. Dr. Robert McCabe, President of Miami Dade Community College and Dr. Brent Johnson, Executive Director of the Maryland State

Board for Community Colleges, were guest speakers. The purpose of this workshop was to review and discuss long-range planning techniques and to acquaint all colleges with planning strategies and techniques related to institutional plan development. Another goal of the workshop was to define major planning elements which could be used to integrate college and System-level planning.

Review of the VCCS mission, development of planning assumptions, and VCCS goals. In August, 1981, the Master Plan Steering Committee received the final report of the VCCS Mission Explication-Goal Setting Task Force. The report included a review of the VCCS statement of Mission and Programs, a set of planning assumptions, and several Educational Program Goals and Operational Goals. In its deliberations, the Task Force concluded that the VCCS mission statement was sound and therefore made only changes to improve the language in the statement of mission. The planning assumptions and goals were derived largely from the Major Issues of the 1980s Survey. The purpose of the Educational Program Goals is to support the economic development of the Commonwealth and to meet the educational needs of citizens of all ages. Operational Goals provide direction to the VCCS as it manages its resources to implement effectively and efficiently the Educational Program Goals.

Master Plan development. To develop chapters of the *Plan*, the Master Plan Steering Committee appointed six task forces and provided each with a detailed, written charge. The task forces were composed of both college and System Offices staff. Final reports of each task force were reviewed by the Master Plan Steering Committee before they were included in the *Master Plan* which was also approved by the Advisory Council of Presidents and the Chancellor. These task forces developed plans for the VCCS Organization; Enrollment and Affirmative Action; Educational Programs; Support Services; Finance and Personnel; and Facilities. In addition, a special survey was conducted by the System Offices Planning staff in September 1982, to assess VCCS involvement in manpower training with business, industry and government. The results of this survey are presented in Chapter VIII of the *Plan*.

IV

STATE BOARD ACTION ON THE VCCS MISSION, GOALS, PLANNING ASSUMPTIONS AND STRATEGIC OBJECTIVES

The State Board for Community Colleges, acted on the recommendations of the Master Plan Steering Committee, the Advisory Council of Presidents, and the Chancellor at its Annual Meeting in November, 1981, and reaffirmed the comprehensive mission of the Virginia community colleges. It also endorsed the Educational Program Goals, Operational Goals, and planning assumptions which will be used, systemwide, to guide the Virginia Community College System as it implements the mission. Strategic Objectives to implement the Operational Goals were approved by the Board on June 24, 1982.

MISSION AND PROGRAMS

> *The general objects of this law are to provide an education adapted to the years, to the capacity, and the condition of every one, and directed to their freedom and happiness.*
>
> Thomas Jefferson, *Notes on the State of Virginia,* 1781; 1782.

THE VIRGINIA COMMUNITY COLLEGE SYSTEM FUNCTIONS WITHIN THE TOTAL EDUCATIONAL COMMUNITY TO ASSURE THAT ALL INDIVIDUALS IN THE COMMONWEALTH OF VIRGINIA ARE GIVEN A CONTINUING OPPORTUNITY FOR THE DEVELOPMENT AND EXTENSION OF THEIR SKILLS AND KNOWLEDGE THROUGH QUALITY PROGRAMS AND SERVICES THAT ARE FINANCIALLY AND GEOGRAPHICALLY ACCESSIBLE.

THE VIRGINIA COMMUNITY COLLEGE SYSTEM RESPONDS TO COMMUNITY NEEDS BY PROVIDING TRAINED INDIVIDUALS FOR INDUSTRY, BUSINESS, PROFESSIONS, GOVERNMENT AND OTHER EDUCATIONAL INSTITUTIONS.

PRINCIPAL EMPHASIS IS PLACED ON OCCUPATIONAL-TECHNICAL EDUCATION. TRANSFER, DEVELOPMENTAL, CONTINUING EDUCATION AND COMMUNITY SERVICE PROGRAMS ARE INTEGRAL PARTS OF THE MISSION AND PROVIDE VITAL SERVICES. THESE PROGRAMS ARE SUPPORTED BY STUDENT DEVELOPMENT SERVICES.

THE MISSION SHALL BE ACCOMPLISHED THROUGH THE VIRGINIA COMMUNITY COLLEGE SYSTEM AND ITS TWENTY-THREE COMPREHENSIVE COMMUNITY COLLEGES LOCATED THROUGHOUT THE COMMONWEALTH. EACH COLLEGE SERVES A DESIGNATED GEOGRAPHIC REGION WHICH REPRESENTS THE COLLEGE'S CAMPUS. THE COLLEGES OFFER PROGRAMS OF INSTRUCTION, EXTENDING NOT BEYOND THE ASSOCIATE DEGREE LEVEL, DESIGNED TO RESPOND TO THE NEEDS OF THE COMMONWEALTH, THE NEEDS OF THE COMMUNITY, AND THE NEEDS OF THE PERSONS OF THE REGION IN WHICH THEY ARE LOCATED.

DISTINCTIVENESS OF THE COMMUNITY COLLEGE MISSION

The Board believes that the comprehensive mission, derived from legislation passed by the General Assembly in 1966 to create the Virginia Community College System, will continue to provide educationally sound direction for the community colleges in future years. The mission is distinct, in many ways, from the missions of four-year colleges and universities; thus, it enables these colleges to make a substantial contribution to the statewide system of public higher education in Virginia. The open-door admissions policy, combined with comprehensive programs and services that are relatively inexpensive, and that are in close proximity to citizens throughout the state, are characteristics that ensure greater access for citizens of all ages. The strength of the programs and services provided by the community college derives not only from their access, but also from their variety: academic programs equivalent to the first two years of the baccalaureate degree; occupational-technical programs of two-year and shorter duration, which combine general education with technical knowledge; and developmental, continuing education, and community service programs are available statewide. Finally, because of their varied occupational-technical programs and their dispersion throughout the different geographical regions of the state, none of the other public institutions have the same capacity as community colleges to respond to the economic development of the Commonwealth.

VCCS MASTER PLAN GOALS

The VCCS Mission Statement is implemented by the System's Educational Program and Operational Goals.

Educational program goals. The Virginia Community College System shall provide financially accessible, high quality, comprehensive educational programs and services. The purpose of these programs and services is to support the economic development of the Commonwealth and to meet the educational needs of citizens of all ages.

The Educational Program Goals of the VCCS are:

1. To offer Associate Degree Programs to prepare individuals for careers as technical and para-professional workers.

2. To offer Associate Degree Programs to prepare individuals for transfer, as upper-division students, to baccalaureate degree programs in four-year colleges.

3. To offer Diploma and Certificate Programs to prepare individuals for careers as technicians, skilled and semi-skilled workers.

4. To offer Developmental Programs to prepare individuals for other instructional programs.

5. To offer Student Development Services which, through counseling and guidance, shall assist individuals with decisions regarding occupational, educational and personal goals.

6. To offer Industrial Training Programs where specific employment opportunities are available in new or expanding businesses, industries, and professions. Such programs shall be operated in cooperation with the individual community colleges.

7. To offer Continuing Education Programs to provide educational opportunities for individuals who wish to continue and expand their learning experiences. Such programs may include credit and non-credit courses, seminars and workshops.

8. To offer Community Services to provide cultural and educational opportunities which are in addition to other programs of the college.

Operational goals. Operational Goals provide direction to the VCCS as it manages its resources to implement effectively and efficiently the Educational Program Goals.

The Operational Goals of the VCCS are:

1. To maintain an effective organizational and governance structure which supports the educational programs of the VCCS and which is consistent with the management concept adopted by the State Board for Community Colleges.

2. To maintain effective communications with the public in general, community leaders and organizations, advisory committees, businesses and industries, the General Assembly, the State Council of Higher Education for Virginia, other state agencies, and other educational institutions.

3. To foster an environment in which the colleges can attract, maintain, develop and effectively utilize competent faculty and staff.

4. To provide physical facilities and equipment to support adequately the mission of the VCCS.

5. To implement a systemwide process, which includes both qualitative and quantitative measures, for the systematic evaluation of instructional programs and student development services.

6. To develop and maintain an appropriate distribution of local, regional and statewide programs and services.

7. To enhance the maintenance of a coordinated system of education in Virginia.

8. To obtain and maintain an adequate level of financial resources and to be accountable for their equitable distribution and for their effective utilization.

9. To maintain comprehensive systemwide and institutional planning, research, and evaluation capability.

10. To provide equal employment opportunity and equal educational opportunities to all.

PLANNING ASSUMPTIONS

I. General Environment, Coordination, and Governance

1. A concerted and effective effort will be necessary to retain public confidence in higher education.

2. There will be continuing need for the general public, business and industry, and all levels of government to be informed about the financial support requirements and the utilization of resources in higher education.

3. The need for management information will continue to grow.

4. Little change is expected in the tax structure in Virginia throughout the planning period.

5. The proportion of tax revenues going to higher education will remain relatively stable.

6. Competition among state agencies for funds will increase as a result of inflation, past levels of funding, and new programs.

7. Federal government grants for direct support of higher education will decrease.

8. New and existing programs and services will be subject to increasing scrutiny.

9. The implementation of new programs and services may require the diversion of resources from existing programs and services.

10. The management concept adopted by the State Board for Community Colleges for the VCCS will be refined and implemented within the planning period.

11. The general governance and state level coordination structure will not change significantly during the planning period.

II. Programs, Enrollments, and Support Services

1. As the cost of attending four-year colleges increases, greater proportions of those students attending Virginia higher education institutions will be going to the community colleges.

2. While the colleges will exhibit different enrollment patterns, System enrollments will increase slightly during the planning period.

3. To meet the demands of business, industry, government and the professions, the community colleges will continue to modify, add, or delete the occupational-technical programs being offered.

4. The need for developmental studies programs will continue.

5. There will be an increase in alternative ways to earn academic credit, such as the College Level Examination Program (CLEP) and equated occupational experience.

6. Establishment of licensure and certification requirements by the various professional groups will increase demand for specialized course offerings.

7. There will be an increased use of self-instructional delivery methods.

8. Instructional technology will be utilized as an aid to conventional teaching methods.

9. The demand for instructional use of computers will increase due to an increase in demand for computer trained personnel, increases in demand from other technical and scientific majors that require use of a computer, and increases in demand for general computer literacy.

10. Curricula will be subject to increasing scrutiny in order to reduce duplication, proliferation, and low productivity.

11. The *Master Plan for the Virginia Community College System Computing Services* will be implemented within the planning period.

12. Community college libraries will continue to be considered regional and community resources.

13. More reliance will be placed on microforms in library holdings and records management.

14. The demand for instruction at locations throughout the colleges' service regions will increase and require more support services to maintain quality.

15. During the planning period, community colleges will strive to make more effective use of community resources.

III. Students and Student Services

1. The composition of the VCCS student body will continue to be diverse.

2. The diverse characteristics of the student body will require a continuing reassessment of student services programs.

3. The need for effective career development programs for students will increase.

4. As a result of increases in tuition and other costs of education, there will be an increase in the demand for financial aid.

IV. Funding, Fiscal Matters, and Facilities

1. There will not be significant real dollar increases in state funding during the planning period.
2. To supplement state support, efforts to secure external funding will increase.
3. Local tax funding will not be a major source of revenue for Virginia's community colleges.
4. Students will bear an increased proportion of the total cost of their education.
5. Limited or no state support will be provided for non-credit activities.
6. State funds for capital construction will be limited.
7. There will be increased use of borrowed or leased facilities to accommodate space needs.
8. Major increases in maintenance and renovation funds will be needed.
9. Major increases in equipment replacement funds will be needed.
10. A larger proportion of college budgets will be consumed by energy and energy-related costs.
11. Special consideration will be given to energy conservation.

V. Faculty, Staff, and Equal Opportunity/Affirmative Action

1. The number of faculty and staff will not increase significantly.
2. There will be an emphasis on increasing faculty productivity.
3. There will be increased need for faculty development and retraining programs.
4. Faculty and staff salaries will increase to the level of average salaries paid nationally.
5. Collective bargaining will not be a factor influencing the terms and conditions of employment for faculty or staff.
6. Increasing federal and state regulations and reporting requirements will create pressure to increase administrative staffing relative to faculty staffing.
7. The VCCS will maintain its commitment to equal opportunity.

MASTER PLAN STRATEGIC OBJECTIVES

The VCCS Operational Goals were established to provide direction when, in future years, it will be of prime importance for the VCCS to manage its resources to implement effectively and efficiently the community college mission. Operational Goals, however, provide broad direction, but do not address specific issues. To ensure that the Operational Goals are fully implemented as intended, eight task forces, composed of college and System Offices staff, were approved by the Advisory Council of Presidents and the Chancellor to develop strategic objectives. The strategic objectives for each Operational Goal, ranked by priority follow. NOTE: MOST OF THE RECOMMENDATIONS WHICH APPEAR IN SUBSEQUENT CHAPTERS OF THIS ***PLAN*** PROVIDE DIRECTION AND STRATEGIES FOR COMPLETION OF THE GOALS AND OBJECTIVES WHICH APPEAR BELOW. FOR THIS REASON, THEY ARE CROSS-REFERENCED, WHERE APPROPRIATE, TO THE OPERATIONAL GOALS AND STRATEGIC OBJECTIVES.

Goal #1: To maintain an effective organizational and governance structure which supports the educational programs of the VCCS and which is consistent with the management concept adopted by the State Board for Community Colleges.

	OBJECTIVE	PRIORITY*
1.	To implement a VCCS management philosophy which seeks to insure that decisions are made at the lowest effective level within the organization.	2
2.	To assess college service regions to determine the degree of congruency with current demographic and transportation patterns and with changes in governmental units.	2
3.	To establish a systemwide organizational plan for the VCCS detailing the college, campus and center units within each of the service regions.	2
4.	To review the policies and procedures that apply to state-local board relationships to determine what changes, if any, should be made in these.	2

*Priority Key: 1 - Mandatory
2 - Urgent
3 - Important if resources are available

Goal #2: To maintain effective communications with the public in general, community leaders and organizations, advisory committees, businesses and industries, the General Assembly, the State Council of Higher Education for Virginia, other state agencies, and other educational institutions.

OBJECTIVE	PRIORITY*
1. To develop and implement a VCCS plan for information dissemination to ensure widespread understanding of the VCCS mission.	2
2. To promote a stronger working relationship between the colleges and state and local level industrial development activities to provide essential training programs for business and industry.	2

Goal #3: To foster an environment in which the colleges can attract, maintain, develop and effectively utilize competent faculty and staff.

OBJECTIVE	PRIORITY*
1. To maintain and improve a faculty and staff evaluation system at each college.	1
2. To increase faculty and staff salaries to the level of average salaries paid nationally.	2
3. To establish guidelines for achieving required levels of productivity for all employees.	2
4. To establish VCCS guidelines for full-time and part-time faculty ratios.	2
5. To provide professional development for all permanent faculty and staff employment categories.	2
6. To improve fringe benefit programs to a point where they are competitive with national programs.	3

*Priority Key: 1 - Mandatory
2 - Urgent
3 - Important if resources are available

Goal #4: To provide physical facilities and equipment to support adequately the mission of the Virginia Community College System.

	OBJECTIVE	PRIORITY*
1.	To develop for each college a comprehensive maintenance/replacement plan for physical plants and equipment to ensure that fixed assets are adequate to support the mission of the VCCS.	2
2.	To improve facilities utilization through more efficient scheduling of campus facilities and through increased use of cost-effective community facilities.	2
3.	To acquire and maintain instructional and support equipment in a condition adequate to support, effectively, the mission of the Virginia Community College System.	2

Goal #5: To implement a systemwide process, which includes both qualitative and quantitative measures, for the systematic evaluation of instructional programs and student development services.

	OBJECTIVE	PRIORITY*
1.	To develop VCCS criteria, standards, procedures, and a calendar for cyclical college review and evaluation of educational programs.	2
2.	To complete the first cycle of educational programs review and evaluation by each college according to the criteria, standards, procedures, and calendar developed in Objective 1.	2
3.	To develop VCCS criteria, standards, procedures, and a calendar for cyclical college review and evaluation of student development services.	2
4.	To complete the first cycle of student development services review and evaluation by each college according to the criteria, standards, procedures and calendar developed in Objective 3.	2
5.	To review VCCS programs, policies, and procedures related to alternative ways to earn academic credit.	2

*Priority Key:
1 - Mandatory
2 - Urgent
3 - Important if resources are available

Goal #6: To develop and maintain an appropriate distribution of local, regional and statewide programs and services.

	OBJECTIVE	PRIORITY*
1.	To establish a systemwide process for the development and review of joint and cooperative, regional and statewide programs and services.	1
2.	To initiate a biennial review of assessed program needs, projected manpower needs, and the VCCS matrix of instructional programs to determine the extent of local, regional, and statewide availability and to identify unnecessary program duplication statewide.	2
3.	To develop a uniform methodology for use throughout the VCCS to assess the opportunities for cooperative programs and services between community colleges and the business/industrial sector and to develop strategies to enhance the development of identified programs and services throughout the VCCS.	2
4.	To develop a plan to administer the delivery of transportable/transmittable instructional programming and delivery systems beyond institutional boundaries.	2

Goal #7: To enhance the maintenance of a coordinated system of education in Virginia.

	OBJECTIVE	PRIORITY*
1.	To develop a statewide articulation agreement between the VCCS and the public four-year colleges and universities.	1
2.	To develop articulation agreements between the VCCS and secondary schools and to develop strategies to address identified problems.	2
3.	To develop articulation or cooperative agreements with private (non-profit and not-for-profit) secondary and postsecondary institutions.	2

*Priority Key: 1 - Mandatory
2 - Urgent
3 - Important if resources are available

Goal #8: To obtain and maintain an adequate level of financial resources and to be accountable for their equitable distribution and for their effective utilization.

	OBJECTIVE	PRIORITY*
1.	To implement a resource allocation model which will provide all colleges with the capacity to accomplish at least a minimum acceptable level of mission goals.	1
2.	To develop an empirically based biennium budget.	2
3.	To determine an appropriate mix of funding support between the General Fund and tuition/fees.	2
4.	To establish measures of accountability for assessing the effective utilization of financial resources.	2
5.	To establish a funding level which will provide for the development and maintenance of program quality in terms of technologically advanced instructional equipment and facilities, adequate supplies, and comprehensive professional development activities.	2
6.	To seek funding from a variety of public and private sources which will provide for the support of educational excellence through creative and innovative instructional programs and institutional management.	2
7.	To establish and maintain a VCCS contingency fund for use by the colleges to meet unexpected and/or emergency funding needs.	3

Goal #9: To maintain comprehensive systemwide and institutional planning, research, and evaluation capability.

	OBJECTIVE	PRIORITY*
1.	To design and conduct a VCCS economic impact study and distribute its results to appropriate audiences.	1
2.	To provide the VCCS colleges and SCHEV with data on community college students who have transferred to four-year Virginia institutions.	1

*Priority Key: 1 - Mandatory
2 - Urgent
3 - Important if resources are available

Goal #9 (Continued)

	OBJECTIVES	PRIORITY*
3.	To develop and implement the *VCCS Master Plan for Computing Services* to support systemwide and college processes.	1
4.	To provide colleges and the VCCS with data concerning the profile of faculty--both full and part-time.	2
5.	To provide the VCCS and colleges with studies/ information on activities which have a critical effect on enrollments and related budget-cost conditions.	2
6.	To provide statewide manpower data relative to VCCS academic programs review and evaluation.	2

Goal #10: To provide equal employment opportunity and equal educational opportunities to all.

	OBJECTIVES	PRIORITY*
1.	To review and update the VCCS Affirmative Action Plan.	2
2.	To achieve objectives of existing VCCS and statewide affirmative action plans and policies.	2

*Priority Key:
1 - Mandatory
2 - Urgent
3 - Important if resources are available

V

PLAN MANAGEMENT

The *VCCS Master Plan 1982-1990* serves as an "umbrella" plan for a diverse set of planning and management decision processes that must occur in the VCCS at various points during a year or biennium. Four primary management activities associated with the *Master Plan* will be completed as the next step in implementing the *Plan*.

1. All Strategic Objectives that are part of the ***VCCS Master Plan** 1982-1990* will be fully developed to indicate the individuals responsible for coordinating and implementing specific strategies to achieve the objectives. Also, a time frame for completing each objective will be developed.

2. A preliminary process for reviewing and updating **the** *VCCS Master Plan* will be completed. It is anticipated that an updated *Master Plan* will be submitted to the State Board for Community Colleges in June 1984.

3. A timetable and preliminary strategies for coordinating state-level and system-level planning activities and for gathering information and data will be developed to incorporate the following:

    - VCCS budget planning and development (Department of Planning and Budget, SCHEV, and VCCS levels).
    - Enrollment planning.
    - Educational programs review and approval of new programs for 1986-88.
    - Legislative planning.
    - Affirmative Action planning.
    - Computing services planning.
    - Facilities planning.

4. A preliminary process for the review and approval of individual VCCS college master plans, and a timetable for fully integrating college master planning with VCCS systemwide master planning will be finalized.

VI

ORGANIZATION

INTRODUCTION

Since it was first established in 1966, the Virginia Community College System (VCCS) has developed into a complex organization of 23 community colleges with 33 campuses located throughout the Commonwealth of Virginia. This chapter of the *Master Plan* describes the evolution of the VCCS and characterizes its structure. Several major issues that effect the current organization of the VCCS are addressed, and plans of action for resolving these issues are delineated.

In 1962, the General Assembly of Virginia took the first step toward the development of the comprehensive community college system: it authorized a legislative study to determine the need for post-high school education facilities throughout the Commonwealth. As a result of the report submitted by this 1962 legislative study group, two pieces of legislation were enacted by the 1964 General Assembly. One act authorized the establishment of a State Board for Technical Education and its administrative agency, the State Department for Technical Education, with the stated purpose of building and operating a statewide system of technical colleges. Northern Virginia Technical College opened in 1965 as the first institution established under the new State Department of Technical Education. At the same time, two additional technical colleges were on the drawing board (Blue Ridge and John Tyler), but neither operated as such because of the rapid development of the community college system that ensued.

The second act passed by the 1964 legislature established a Higher Education Study Commission to make a thorough survey of the facilities, programs, and needs of higher education in Virginia. A key recommendation of this Study Commission was that comprehensive community colleges should be developed throughout the Commonwealth of Virginia. Acting upon this recommendation, the 1966 General Assembly passed legislation to establish a state system of comprehensive community colleges. This legislation changed the State Board for Technical Education and the State Department for Technical Education to the State Board for Community Colleges and the State Department for Community Colleges, respectively. Furthermore, the act provided for (1) the immediate conversion of the three technical colleges (Northern Virginia, Blue Ridge and John Tyler) into comprehensive colleges; (2) the transfer of seven existing two-year university branch institutions to the community college system at a future date; and (3) the immediate transfer of the post-high school programs in the five area vocational-technical schools to the new community college system.

The General Assembly of 1977 enacted several amendments to the original legislation that created the Department of Community Colleges. One amendment redefined the statutory references to the words "Department of Community Colleges" to mean the State Board for Community Colleges. Another amendment provided for the continuation of the State Board for Community Colleges as a corporation under the style of "the State Board for Community Colleges," with the responsibility for a statewide system of publicly supported community colleges to be known as the Virginia Community College System.

In addition to the legislation that designated the State Board a corporation, and the 23 colleges and the System Offices a system, the 1977 General Assembly also passed a resolution clarifying the role of the State Board. House Joint Resolution No. 192 defines the role of State Board for Community Colleges as "that of a governing board of a statewide institution of higher education and not as that of a board of a state agency, subject to the direction and control of the Governor, and that its functioning in the role of a governing board of an institution of higher learning is necessary for it to continue the purpose for which it and the Commonwealth's system of community colleges was created." This action characterized the VCCS clearly as a single institution with many constituent units serving citizens throughout the Commonwealth.

The 38,896 square miles that comprise the Commonwealth of Virginia are divided into 23 service regions. Each of the 23 community colleges serves a designated geographic service region. The political jurisdictions within each of these service regions as they exist presently are described in Appendix B. Patrick Henry's service region was established in 1971 from a portion of what was then Danville Community College's region. In 1981, the service region of Blue Ridge Community College was expanded to include Highland County which was part of the Dabney S. Lancaster Community College service region. Also in 1981, Louisa County, a part of the service region of Germanna Community College, was divided between J. Sargeant Reynolds Community College and Piedmont Virginia Community College. Nine colleges became part of the VCCS in 1966; eleven colleges were established between 1967 and 1971. Piedmont Virginia, J. Sargeant Reynolds, and Mountain Empire Community Colleges were the last three formed in 1972.

Between 1970 and 1980, the population in Virginia increased from 4,625,378 to 5,346,286 individuals, or nearly 16 percent. During that same time period, the unduplicated headcount enrollment of the VCCS grew from 39,765 to 187,206 or over 212 percent. Thus, during 1980-81, the VCCS served nearly one out of every 29 individuals in credit courses alone. The impact of the VCCS would be even more dramatic if individuals served in non-credit courses and services were included in these headcount figures.

The institutional size of the 23 colleges during 1980-81 ranged from 806 different students being served in credit courses at Eastern Shore Community College, to 57,572 different students served at Northern Virginia Community College's five campuses. In terms of campuses, three colleges are urban multicampuses (JSRCC, NVCC, TCC), two rural multicampuses (RCC and SsVCC) and 18 single campuses.

Each college's geographic service region is shown on Map 1 which follows. Population and enrollment data, the starting date, and service area size for each college are presented in Table 1. This table also shows the 23 colleges divided into four geographical regions of the state: Northern, Eastern, Central and Southwest.

ISSUES

Since 1966, the VCCS has become a complex system of colleges. This maturing system of colleges has already played a dynamic role in the economic development of the Commonwealth. Contingent with plans to continue fulfilling a major role in public post-secondary education in Virginia, the VCCS as a part of its planning process for developing a *Master Plan* for the 1980s, has identified three major issues that this chapter will address. These issues are: *(1) The appropriateness of the VCCS organization and governing structure; (2) The vitality and effectiveness of the colleges and the System Offices; and (3) The strength of communication linkages with the General Assembly and the general public. Each issue is discussed briefly and an action plan for resolving each issue is presented.*

Issue #1: ***Appropriateness of the VCCS Organization and Governance Structure***. Since the inception of the VCCS in 1966, the broad network of community colleges has enabled Virginia to make great strides toward increasing access to educational opportunities for citizens throughout the state. One of the fundamental reasons for creating the VCCS was to provide all citizens in the Commonwealth access to post-secondary educational opportunities within reasonable commuting distance of their home or work. As noted earlier, the geographic service regions have not changed much since the state was first divided into 22, then 23 districts.

Recently, some concern has been expressed about the appropriateness of college service region boundaries. Concern about the college service areas has occurred because of shifts in population; the creation of new roads, bridges, tunnels; the development of outreach educational centers at some colleges; the initiation of regional programs among some of the colleges, and recent economic development trends throughout the Commonwealth. Of these, changes in regional transportation patterns may have a substantial impact on the extent to which the individual colleges attract in-state students from outside their existing service regions. For this reason, it may be helpful to review the in-migration of students from other service areas.

Map 1

VIRGINIA COMMUNITY COLLEGES, LOCATIONS, AND SERVICE REGIONS

BR	**BLUE RIDGE** Weyers Cave
CV	**CENTRAL VIRGINIA** Lynchburg
DSL	**DABNEY S. LANCASTER** Clifton Forge
D	**DANVILLE** Danville
ES	**EASTERN SHORE** Melfa
G	**GERMANNA** Locust Grove
JSR	**J. SARGEANT REYNOLDS** Downtown Campus Richmond Parham Road Campus Henrico County Western Campus Goochland County
JT	**JOHN TYLER** Chester
LF	**LORD FAIRFAX** Middletown
ME	**MOUNTAIN EMPIRE** Big Stone Gap
NR	**NEW RIVER** Dublin
NV	**NORTHERN VIRGINIA** Alexandria Campus Annandale Campus Loudoun Campus Manassas Campus Woodbridge Campus
PH	**PATRICK HENRY** Martinsville
PDC	**PAUL D. CAMP** Franklin
PV	**PIEDMONT VIRGINIA** Charlottesville
R	**RAPPAHANNOCK** North Campus Warsaw South Campus Glenns
Ss	**SOUTHSIDE VIRGINIA** Christanna Campus Alberta John H. Daniel Campus Keysville
Sw	**SOUTHWEST VIRGINIA** Richlands
TN	**THOMAS NELSON** Hampton
T	**TIDEWATER** Chesapeake Campus Chesapeake Frederick Campus Portsmouth Virginia Beach Campus Virginia Beach
VH	**VIRGINIA HIGHLANDS** Abingdon
VW	**VIRGINIA WESTERN** Roanoke
W	**WYTHEVILLE** Wytheville

NOTE: Bold lines indicate service regions
Dotted lines indicate shared service

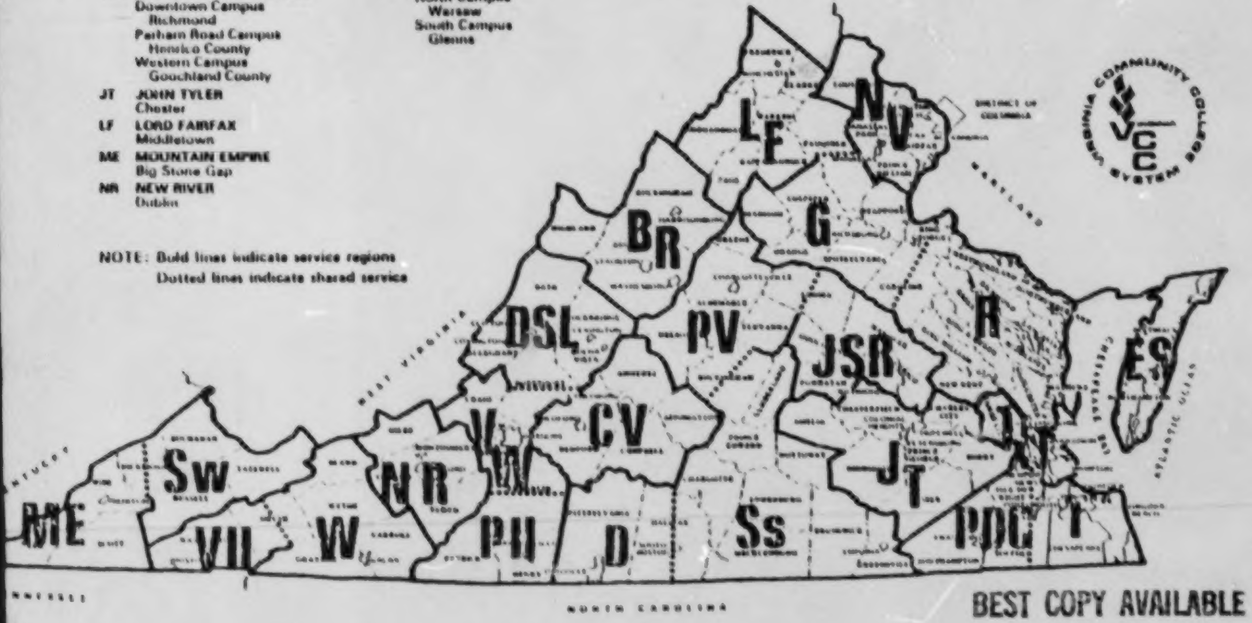
LF
NV
DISTRICT OF COLUMBIA
MARYLAND
BR
G
DSL
PV
R
JSR
ES
WEST VIRGINIA
CHESAPEAKE BAY
ATLANTIC OCEAN
KENTUCKY
Sw
NR
VW
CV
JT
TN
T
ME
VH
W
PH
D
Ss
PDC
TENNESSEE
NORTH CAROLINA

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TABLE I

DEMOGRAPHIC INFORMATION ABOUT VIRGINIA'S COMMUNITY COLLEGES

AREA	START DATE	AREA IN SQ. MILES	1970 POPULATION	1970-71 ENROLLMENT	SERVICE RATIO (%)	1980 POPULATION	1980-81 ENROLLMENT	SERVICE RATIO (%)
NORTHERN								
Blue Ridge	1966	2,292	150,455	1,668	1.11	170,564	3,515	2.06
Germanna	1970	2,410	120,820	583	0.48	173,075	1,832	1.06
Lord Fairfax	1970	2,237	124,759	723	0.58	156,530	2,924	1.87
Northern Virginia	1966	1,312	937,245	14,564	1.55	1,105,714	57,572	5.21
Piedmont Virginia	1972	2,197	113,532	-	-	140,561	6,526	4.64
Total		10,448	1,446,811			1,746,444		
EASTERN								
Eastern Shore	1971	702	43,446	-	-	45,893	806	1.76
J. Sargeant Reynolds	1972	1,527	341,375	-	-	374,476	17,156	4.58
John Tyler	1967	2,589	361,616	2,729	0.75	412,292	7,417	1.80
Paul D. Camp	1970	972	39,534	-	-	60,652	2,010	3.31
Rappahannock	1971	2,293	100,903	-	-	123,935	2,291	1.85
Thomas Nelson	1966	404	324,522	3,088	0.95	344,342	10,334	3.00
Tidewater	1968	1,042	694,672	2,870	0.41	782,594	24,936	3.19
Total		9,529	1,906,068			2,144,184		
CENTRAL								
Central Virginia	1967	2,122	165,997	2,139	1.29	194,178	5,784	2.98
Dabney Lancaster	1966	1,870	72,969	780	1.07	77,857	1,893	2.43
Danville	1966	1,425	123,663	2,204	1.78	130,545	3,900	2.99
Patrick Henry	1970	1,216	99,917	-	-	111,258	2,438	2.19
Southside Virginia	1970	3,857	143,155	369	0.26	148,844	3,190	2.14
Virginia Western	1966	1,252	208,138	3,798	1.82	230,783	9,197	3.99
Total		11,742	800,939			893,465		
SOUTHWEST								
Mountain Empire	1972	1,550	92,855	-	-	109,547	5,543	5.06
New River	1966	1,458	114,833	901	.79	141,343	5,660	4.00
Southwest Virginia	1968	1,669	104,459	1,372	1.31	130,164	6,887	5.29
Virginia Highlands	1966	519	71,367	745	1.04	82,212	2,329	2.83
Wytheville	1966	1,981	88,046	1,232	1.40	98,927	3,606	3.65
Total		7,177	471,560			562,193		
TOTAL			4,625,378	39,765		5,346,286	187,206	

Since 1972, the VCCS organizational structure of 23 colleges and 33 campuses and a System Office has undergone only minor changes. Some functions have been transferred from the System Offices to the colleges, as the level of System Offices staffing has been reduced since 1979, but the overall pattern of decision-making continues to reflect a fairly centralized organization. Given the present configuration of colleges and campuses and the recent funding shortages in the Commonwealth, it is timely to study the appropriateness of the current organizational structure. Originally, each college was designed to be comprehensive, offering: freshmen and sophomore courses in the arts and sciences for transfer to baccalaureate degree programs; diversified technical curricula, including programs leading to an associate degree; occupational and technical education leading directly to employment; courses in general and continuing education for adults; and developmental courses for the extension of skills and knowledge. Questions have arisen about how small a college should become before its comprehensive nature must be reevaluated or eliminated. Determining how best to serve an urban population center is related to this organization issue. Specifically, should a large standard metropolitan statistical area (SMSA) such as Northern Virginia, Tidewater, or Richmond be divided into several service areas, or should one college with multiple campuses serve an entire geographic area?

The achievement of an optimum level of centralization/decentralization in functions and activities within the System is also related to the issue of organizational appropriateness. In 1979, the State Board for Community Colleges in its meeting of August 16 stated that:

> "The VCCS central staff (System Offices) shall focus on management review and oversight functions thereby delegating maximum authority to presidents for the day-to-day management of the individual colleges."

This statement holds presidents accountable for all aspects of decision-making, management and operational responsibilities delegated to the individual colleges. Furthermore, it suggests placing responsibility for operational decisions at the lowest effective level within the organization. The System Offices have primary responsibility for systemwide planning, policy/procedure coordination, and the provision of management and leadership for the attainment of systemwide goals and objectives. The State Board for Community Colleges has authority to establish, supervise, control, evaluate and administer those under its jurisdiction and fulfills these responsibilities through the Office of the Chancellor. The Board adopts policies and distributes resources and programs through the Chancellor as Chief Executive Officer. The *Master Plan* surveys suggest an in-depth study of each function and activity to define the most efficient and effective approach to fulfill goals and objectives.

Related to the issue of organization is the matter of state-local board relationships. The *VCCS Policy Manual* currently details policies for the State Board, and to a lesser extent, for the local boards. In general, these policies have served the VCCS well and will remain effective unless formally changed by the State Board. However, the specific relationship between the two boards that is necessary to carry out such responsibilities may need further clarification. A review and analysis of policies concerning the roles and relationships of the two boards should be pursued.

The following is a list of specific assumptions and recommendations concerning the appropriateness of the VCCS organization and governance structure (Issue #1).

Assumptions

1. Community colleges will continue to have a major impact on the future of the Commonwealth of Virginia.
2. Community colleges will continue to provide comprehensive educational opportunities to all citizens.
3. The VCCS is a dynamic organization and therefore should continually undergo review and evaluation to assure maximum educational effectiveness and management efficiency.

Recommendations

1. That the VCCS undertake an empirically-based study of the VCCS organization, including the network of community colleges and the System Offices to ensure educational services are being provided to the Commonwealth citizenry in the most efficient and effective manner. (*Master Plan* Goal #1, Objective #3)
2. That the VCCS further delineate its management approach to ensure that decisions are made at the lowest effective level within the organization. (*Master Plan* Goal #1, Objective #1)
3. That the VCCS review and update, if necessary, the policies and procedures that prescribe state and local board relationships. (*Master Plan* Goal #1, Objective #4)

Issue #2: Assessment of Effectiveness of the Colleges and System Offices. Although the call for increased accountability in all public service agencies - including colleges and universities - has been heard throughout the Commonwealth for some time, only within the last two to three years have resources become much more scarce and the concern for accountability been taken more seriously. Declining physical, human, and fiscal resources have encouraged the Governor's Office, the Governor's Cabinet, the General Assembly, the State Council of Higher Education, and others, to advocate "doing more with less."

The VCCS has undertaken through the *Master Plan* an objective assessment of its activities, an effort which requires a blending of quantitative and judgmental methods of evaluation. Specifically, the colleges and the System Offices should: define goals and set priorities; identify and measure specific outcomes; compare goals and outcomes and judge them on the basis of the degree to which these goals are being achieved. They should also measure cost and judge the degree to which the educational product can be provided within reasonable cost limitations. This process involves extraordinary accomplishments of identification, measurement and judgment.

Common systemwide criteria are essential for evaluating colleges. Quantitative and qualitative measures are needed to determine the degree to which colleges are performing in accordance with various state and VCCS policy guidelines. Specifically, a set of criteria that applies to all 23 colleges should be developed by the System Offices.

Common performance criteria should also be developed for use by local boards in their evaluation of colleges and Presidents. There is also a need for performance criteria to be established for use by the State Board for Community Colleges to evaluate the System Offices.

The following is a list of specific assumptions and recommendations concerning the assessment of the effectiveness of the colleges and System Offices (Issue #2).

Assumptions

1. There is a need for the community colleges to develop criteria for the evaluation of institutional efficiency and effectiveness.

Recommendations

1. That the VCCS establish common systemwide criteria for evaluating colleges.

2. That the VCCS develop common criteria, to be used by local boards, for evaluating colleges and their Presidents.

3. That the VCCS develop criteria, to be used by the State Board, for evaluating the System Offices.

Issue #3: Strengthening Communication with the General Assembly and the General Public. Since 1979, the VCCS has annually pursued the development of a legislative plan for dealing with the General Assembly. The first VCCS legislative plan was developed to interact with the 1980 General Assembly. As a further action, in March 1982, the State Board approved:

> "...the establishment of a committee of community college Presidents, appointed by the State Board Chairman and the Chancellor, to critique the 1982 Session of the General Assembly and to evaluate that session and past sessions and make recommendations to improve approaches and procedures on legislation."

The resulting VCCS Legislative Plan of Action includes a detailed explanation of the role and function of the State Board, the Chancellor, the Presidents, and the Vice Chancellors. The plan also calls for a critique of the immediate past General Assembly session and an analysis of issues likely to arise in the next General Assembly session. This planning initiative will help to articulate systemwide and college-specific legislative priorities for future sessions of the General Assembly.

The colleges have responsibility for the development of annual public information plans to deal effectively with their respective local jurisdictions and the general public. These plans should contain information about special programs with local and state political entities, the extent of participation in state and local affairs, special programs and events for general public consumption, as well as major publications to be developed and disseminated during the year. Recently, many colleges have begun efforts to strengthen relationships with local business, industry, and other agencies. The schedule of these activities should be included in the college public information plan.

Both the VCCS legislative plan and individual college public information plans are urgently needed to assure that the General Assembly and the general public become better informed about the purpose and role of the community colleges and to better understand VCCS and college-specific needs. In the past, there has been considerable misunderstanding of the mission of the community college, perhaps because that mission was not articulated as completely as necessary.

The following is a listing of specific assumptions and recommendations that concern the issue of strengthening communication with the General Assembly and the general public. (Issue #3).

Assumptions

1. Community Colleges must improve their external communications if they are to improve their stature in their local respective community and in the state.

2. Strong coordination of systemwide and college-specific priorities is necessary to deal effectively with the General Assembly.

Recommendations

1. That the VCCS maintain a legislative plan for information dissemination that ensures widespread understanding of the VCCS mission, goals, and objectives that require continued financial support. (***Master Plan*** Goal #2, Objective #1)

2. That the VCCS promote an effective public information effort with the general public, businesses and industries, and other agencies in the local service area. (*Master Plan* Goal #2, Objective #1 and #2)

VII

EDUCATIONAL PROGRAMS OVERVIEW AND NEW PROGRAMS RECOMMENDED FOR 1984-86

The System of 23 Virginia community colleges exists to bring educational services to Virginia's citizenry. Accordingly, the development, implementation and evaluation of VCCS academic programs and services is pivotal because it integrates the VCCS and individual college master planning efforts. This chapter sets forth an improved VCCS-college academic program review and approval process, new or reconfigured sets of data which support program planning, and a list of prioritized programs and majors for 1984-86. State Board for Community Colleges' actions on VCCS recommended programs and majors are presented by program cluster in the chapter.

This chapter includes the following sections: (1) Purposes; (2) Organization; (3) Academic Program Review and Approval Process (4) Programs Recommended for 1984-86; (5) Information Resources; (6) Demand for Programs: Manpower/Economic; and (7) VCCS Enrollments: Productivity and Profiles.

PURPOSES

The *Educational Programs Chapter* of the *VCCS Master Plan* has been designed to accomplish the following:

- *Refine and apply the VCCS-College academic program review and approval process to the programs/majors the colleges propose to implement during the 1984-86 biennium.*

- *Provide the VCCS and the State Council of Higher Education for Virginia with a list of programs which the State Board for Community Colleges recommended for implemention during the 1984-86 biennium.*

- *Provide information resources needed to evaluate the current status of each VCCS academic program cluster and to plan future degree and non-degree programs and majors to be offered.*

PROCESS OVERVIEW

The VCCS academic program planning process involved three phases:

- The first phase involved the development of a methodology for reviewing and prioritizing proposed VCCS-college academic programs. This methodology is described in the next section of this chapter.

- The second phase required the application of the VCCS program review and approval process to the community colleges' proposed programs and majors for the 1984-86 biennium. Using new and reconfigured sets of manpower/economic data, enrollment productivity and profile information, as well as direct cost and student financial aid information, a VCCS Task Force of Deans of Instruction and Provosts reviewed and rated each program and major. They produced the prioritized list of VCCS recommended programs and majors for 1984-86. While prioritization in this edition of the *Master Plan* occurred only for programs and majors proposed for 1984-86, VCCS future review and approval activities call for the prioritizing of existing programs and majors and also programs and majors proposed for subsequent biennia.

- The third phase entailed State Board for Community Colleges' recommendations on degree programs and majors recommended for 1984-86. Though the System expects the student demand for college transfer, occupational-technical, unclassified, and developmental coursework to increase consistently through the 1980s, this edition of the *Master Plan* focuses on examining national and Virginia occupational trends and forecasts and relating them to programs in the System's six occupational-technical clusters. These six clusters and a seventh -- College Transfer, are listed below and described later in the chapter.

CLUSTER: AGRICULTURAL AND NATURAL RESOURCES TECHNOLOGY

CLUSTER: ARTS AND DESIGN TECHNOLOGY

CLUSTER: BUSINESS TECHNOLOGY

CLUSTER: ENGINEERING AND INDUSTRIAL TECHNOLOGY

CLUSTER: HEALTH TECHNOLOGY

CLUSTER: PUBLIC SERVICE TECHNOLOGY

CLUSTER: COLLEGE TRANSFER

Each cluster section in the chapter is intended to stand alone as a concise reference document regarding the past and future status of a cluster of VCCS academic programs. Also, each displays the same sets of information: (1) Demand for Programs: Manpower/Economic; (2) Existing and Proposed Programs; and (3) Enrollments: Productivity and Profiles.

ACADEMIC PROGRAM REVIEW AND APPROVAL PROCESS

The VCCS Academic Program Review and Approval Process has been expanded to support the primary emphasis placed, in the master planning process, upon academic programs. The revised process was developed by a Task Force of VCCS Deans of Instruction and Provosts in consultation with the Vice-Chancellor for Academic Affairs and the System Offices Planning and Evaluation staff. The purpose of the review process is to apply information used in the process for future program planning and development activities, and to apply the process to rank new programs proposed by the twenty-three community colleges. The ranked programs, then, become the basis from which the State Board for Community Colleges prioritizes proposed programs and subsequently, makes recommendations to the State Council of Higher Education concerning degree program approval. Three categories are used by the State Board to prioritize programs: (1) Recommended; (2) Recommended with Conditions; (3) Not Recommended. In future years, this process will be developed more fully and applied to review all degree programs and majors which are proposed for a biennium. The ranked programs proposed for the 1984-86 biennium follow this section.

Standards developed for the Program Review process, and the criteria by which these standards were measured, were developed to achieve two purposes: (1) to evaluate selected characteristics that justify, from a local perspective, proposed programs offered by a single college and (2) to evaluate additional characteristics that justify, from a regional and statewide perspective, the academic programs offered collectively by the System of community colleges.

Twelve standards, each with one or more specific criteria, were considered in the review process. These standards address major issues that concern (1) changes in the program emphasis of a college; (2) occupational and student demand for a program; (3) program costs, staffing, facilities, and equipment; (4) duplication of programs by geographical region; and (5) the health and productivity of similar programs currently offered in the VCCS.

The demand for a proposed program as shown by local, regional, and statewide employment opportunities and a sufficient number of students to enroll in the program are critical standards which must be demonstrated before any new occupational-technical program can be considered for initiation. Other standards are important because they demonstrate that the financial, staffing, facilities, and equipment resources of a college are adequate to sustain a program that will be productive and of high quality. Another standard, the fit between a proposed program and the program emphasis of existing college programs is an important issue in a period when fiscal resources may be critically limited. Institutions must not over-commit resources and expand to offer new programs which require not only more, but also different resources, such as equipment, without thorough planning for such a change in program emphasis.

Of particular interest to state-level planners is an assessment of duplication among programs. The extra demand such programs make upon limited state resources is of obvious concern, but the competition, particularly if it becomes unhealthy, is also important to state-level policy makers. To eliminate program duplication, the VCCS Review and Approval Process encourages, through the application of certain criteria, the initiation of programs to serve students who are not presently served.

Review of five-year enrollment and graduate trends, as well as the review of selected student characteristics of existing VCCS programs, by major program clusters such as Health Technology, were elements of another important dimension in the review process. The trend data used in the review process were developed for individual colleges and for the System. In the review process, this trend analysis was used to predict the health and productivity of proposed programs.

The standards and criteria developed for the VCCS Program Planning, Review and Approval Process are provided in Appendix D. An evaluation team, composed of Deans of Instruction, Provosts and Instructional Programs staff, applied the review process to the academic programs proposed for the 1984-86 biennium. The Curriculum Appraisal Form used in the process is also included in Appendix D.

PROGRAMS RECOMMENDED FOR 1984-86

State Board actions on the recommended VCCS programs and majors for 1984-86 are presented on the following page and later by program cluster. Refer to each cluster section entitled Existing and Proposed Programs.

State Board actions on programs for the 1986-88 and 1988-90 bienniums (as proposed by the colleges' *Six Year Curricular Plans*) are not included in the *Master Plan*, since these proposed programs will be reviewed using new 1980 U.S. Census data and new Virginia occupational trend information. Programs proposed for 1986-90 are shown in Appendix C.

The full complement of VCCS existing (1981-82) and proposed (1982-90) degree program, diploma, and certificate offerings is shown on the VCCS Curricular Matrix in Appendix C. Included among the data tables for each cluster section in this chapter, is a MAP which shows the distribution of existing and proposed degree programs, diploma and certificate offerings for a particular program cluster.

RECOMMENDATIONS OF THE STATE BOARD FOR COMMUNITY COLLEGES
DEGREE PROGRAMS AND MAJORS--1984-86 BIENNIUM

DEGREE PROGRAM/MAJOR	INSTITUTION	YEAR OF INITIATION
DEGREE PROGRAMS (CATEGORY # 1 RECOMMENDED)		
Data Processing/Data Processing	New River	1984
Civil Engineering Technology/ Civil Engineering	Tidewater	1984
Environmental Control Technology/ Air Conditioning, Heating and Refrigeration	New River	1984
Nursing/Nursing	Blue Ridge	1984
Protective Services/Police Science	Mountain Empire	1984
Medical Laboratory/Medical Laboratory	Piedmont	1984
DEGREE PROGRAMS (CATEGORY # 2 RECOMMENDED WITH CONDITIONS)		
Science Laboratory/Science Laboratory	Piedmont	1984
Nursing/Nursing	Southside	1984
Data Processing/Data Processing	Virginia Highlands	1984
Data Processing/Data Processing	Southside	1984
Data Processing/Data Processing	Dabney S. Lancaster	1984
Communication Technology/Radio/TV Production	Tidewater	1984
Data Processing/Computer Programming	Patrick Henry	1984
Electrical/Electronics/Industrial Electronics	Patrick Henry	1984
General Engineering/General Engineering	Patrick Henry	1984
Vehicle and Equipment Technology/Automotive	Patrick Henry	1985
MAJORS (CATEGORY # 1 RECOMMENDED)		
Electrical/Electronics-- Instrumentation	John Tyler	1984
MAJORS (CATEGORY # 2 RECOMMENDED WITH CONDITIONS)		
Business and Office/Office Administration and Management	Tidewater	1985
Vehicle and Equipment Technology/ Airframe and Power Plant Mechanics	Tidewater	1985
Transportation/Aviation Technology	Tidewater	1984

FUTURE DIRECTIONS

Three recommendations, derived from the review and analysis of existing and proposed educational programs, will affect VCCS program planning in the future years. These recommendations are:

- That a VCCS Task Force be convened to develop a standard methodology to attain occupational outlook information for businesses and industries in local communities across the state.
- That prior to the review of the programs and majors proposed for the 1986-88 biennium, two actions should be taken: (1) The data available from the 1980 U.S. Census should be assessed by VCCS-college staff to determine shifts in Virginia population characteristics and in employment statistics; (2) The Virginia Employment Commission's revisions to the current Occupational Employment Statistics program, which will project statewide employment opportunities to 1990, should be reviewed.
- That a VCCS Task Force be convened to study the programs in the Cluster: Agricultural and Natural Resources Technology and produce recommendations on the direction the cluster's programs should take in the future.

Additional future program planning initiatives are contained in the strategic objectives that were developed to implement the ten VCCS operational goals presented earlier in this *Plan*. The central importance of educational programs to the VCCS planning process is indicated by VCCS objectives: a) to evaluate the programs offered systemwide; b) to review and evaluate the distribution of local, regional, and statewide programs; and c) to maintain a coordinated system of education in Virginia. Specific objectives are described in greater detail below.

Program Evaluation

Currently, the VCCS is engaged with the State Council of Higher Education for Virginia in an evaluation of Developmental Studies programs offered by two-year and four-year colleges throughout the State. The VCCS will also participate in other statewide evaluations of programs, by discipline, which are being conducted by the State Council. The Council plans to begin these quality reviews of academic programs in fall 1982, when computer science and secondary and graduate education, in addition to developmental programs, will be reviewed.

Prior to the initiation of the expanded study of Developmental programs by the State Council, however, the VCCS began the first systemwide evaluation of developmental programs offered at community colleges. This latter study will be completed in December, 1982. The findings of this study are significant because they will affect developmental program initiatives which the VCCS will plan for future years. Equally important, however, is the fact that the study methodology will serve as a model for VCCS systemwide program evaluation. This evaluation model will be modified, as appropriate, during the next year to achieve two important objectives stated for VCCS Operational Goal #5: (1) "To develop VCCS criteria, standards, procedures, and a calendar for cyclical college review and evaluation of educational programs." (2) "To complete the first cycle of educational programs review and evaluation by each college according to the criteria, standards, procedures, and calendar developed in Objective 1."

Progress toward meeting these objectives has been made in recent months as the VCCS, in recognition of the emphasis upon occupational-technical education in the community college mission, has designed, in cooperation with the State Department of Education, a process to evaluate the quality of these programs. Another purpose of the process is to provide reliable data to support decisions related to occupational-technical program modifications, additions, and deletions. It is designed so that each occupational-technical program in the System will be evaluated at least once during a five-year period. Evaluation teams will use a standard evaluation instrument to identify both strengths and weaknesses of occupational-technical courses and programs. In this way, the quality of these courses and programs will be enhanced.

Before describing additional program planning initiatives, it is important to reaffirm the central importance of the VCCS Academic Program Review and Approval Process to the evaluation of existing programs as well as to the evaluation of programs proposed by the colleges in future years. The Review and Approval Process is described earlier in this Chapter and the standards and criteria for the evaluation of proposed programs are contained in the Appendix of this *Plan*. Because this process guides, to some extent, program planning at the institutional level, the State Board believes that it will help to ensure that the resources allocated to the System are used effectively and efficiently in future years.

Joint and Cooperative Programs

To achieve the goal of maintaining an appropriate distribution of local, regional, and statewide programs and services, the VCCS, in March 1982, introduced a set of Guidelines for Joint and Cooperative Program Development. The guidelines represent a commitment of the System to use limited resources as effectively and efficiently as possible and to maintain quality programs that meet changing manpower needs. Two types of programs are defined in the guidelines: joint and cooperative. A joint program results when two or more institutions share resources equally and each institution offers the award. Only one institution offers the award for cooperative programs and resources, such as facilities and faculty, are shared in defined ways. The primary responsibility for proposing joint or cooperative programs is left to colleges as they plan new degree programs and majors. For cooperative or joint programs to be approved by the State Board for Community Colleges, they must meet several criteria. Documentation of manpower training needs and employment opportunities of a geographical area; student demand for a program;

articulation agreements with business, industries, or governmental agencies; documentation of population characteristics and trends; program costs per credit hour; equipment and capital outlay requirements; and staffing requirements are factors which must be included in program proposals. The joint and cooperative program guidelines are included as Appendix E in this *Plan*.

Finally, the program planning initiatives described in this *Plan*, refer to programs and courses offered in traditional ways. In future years however, the VCCS will explore alternative ways, not only to earn academic credit, but also to deliver instructional programs. Two objectives related to Operational Goals #5 and #6 address specific steps the VCCS will take. First, programs, policies and procedures related to alternative ways to earn academic credit will be reviewed. Secondly, a plan to administer the delivery of transportable and transmittable instructional programs beyond institutional boundaries will be developed.

Program Articulation

To enhance the maintenance of a coordinated system of education, the VCCS in collaboration with the State Council is presently conducting a study to evaluate the success of community college students who transfer to four-year institutions. The study will be completed in fall, 1983. Another major effort to reduce the number of problems community college students encounter when they transfer to four-year institutions, has been initiated by the Secretary of Education. A Task Force, that includes representatives from community colleges, is presently working to develop statewide articulation agreements.

Because community college programs also complement the programs offered by secondary schools and private secondary and postsecondary institutions, articulation with these sectors and the need to develop strategies to address identified problems have also been addressed through specific VCCS objectives. The reader is referred to Operational Goal #6 for specific statements of these objectives.

EDUCATIONAL PROGRAMS: RESOURCE INFORMATION

This section includes (1) information resources selected and (2) data limitations and future needs.

Information resources selected. The selection of information resources to be referenced in this chapter of the ***Master Plan*** and displayed in its tables was influenced by the following:

- Applying the criteria of the VCCS Academic Program Review and Approval Process to programs and majors grouped by seven clusters of academic programs led to the need for all the information items listed below, but only those checkmarked (✓) had data current enough or available to be used.
    - ✓ Demand for Programs: Manpower/Economic Virginia
    - ✓ Demand for Programs: National Manpower/Economic
    - ✓ Enrollment Demand: Population Related
    - ✓ Program Distribution and Duplication
    - ✓ Program Direct Costs
    - ✓ Impact of Student Financial Aid
    - __ VCCS Student Follow-up and Transfer Information
    - ✓ Impact of Proposed Programs on VCCS-College Mission
    - ✓ Enrollments: Program Productivity/Profiles
    - ✓ Community Need/Support for On-going and Proposed Programs
    - __ Virginia Adults' Career Interests
    - ✓ Career Interests of High School Students
- The need to use statewide manpower supply and demand data to assess the viability of community college occupational-technical programs led to the use of occupational data available through the Virginia Employment Commission. The limitations of the data are stated in Appendix F. In addition, regional and local service area manpower data from local college needs assessments was used to complement the statewide data in the review and approval process for 1984-86 degree programs. Relating occupational demand/supply data to VCCS college clusters of academic programs required an extensive system development effort and yielded new information for reviewing job supply and demand for VCCS academic programs.

- The State Council and VCCS use of five-year enrollment and graduation totals and yearly averages to assess program productivity led to the development of systems which process for each year of a five-year period, data required for such productivity measures. For VCCS purposes, a system was also developed which gave 1977 and 1981 fall quarter headcount profile information on full-time, female, minority, and student age characteristics. The VCCS and State Council requirements to assess direct cost information by program was met through the use of the Virginia Information Exchange Procedure (VAIEP) system.

Data limitations and future needs. The data limitations and future needs for educational program planning are as follows:

- U.S. Census data, 1980, were not available, shifts in Virginia population characteristics could, therefore, not be assessed.
- Information from the Virginia Employment Commission is 1974-76 survey data adjusted to show changes in employment opportunities through 1985.
- The Virginia community colleges have, individually, various kinds of job placement data on graduates. The System needs better employer feedback and students-as-employees information.
- The System does not have any recent information on community college students who transfer to Virginia's public four-year colleges and universities. The System is collaborating with State Council in an effort to develop a statewide transfer follow-up system to attain thorough information on transfer students.
- Various sets of new VCCS enrollment, graduation and job-to-program-related information are now available; however, this information is too detailed to appear in the *Plan*. This data will be used by the System, the colleges and the State Council for review and planning activities.

PROGRAM DEMAND: MANPOWER/ECONOMIC

The outlook for the decade emphasizes the following as major occupational prospects for the 1980s and beyond.

- Advancements in technology and continued revitalization of American industry will increase and diversify the need for skilled technicians in a variety of engineering and scientific fields.

- Data Processing occupations, overall, will continue to grow in their need for trained manpower to meet expanding requirements in business, industry and government.

- There will be continued emphasis on health care, especially with the increases in population and growing proportions of senior citizens. The older age groups are increasing the demand for health professionals, technicians, and other health workers -- particularly in the field of nursing.

- In the field of agriculture, the need for production or farm workers should decline, while many of the agribusiness firms and agricultural services industries will continue to need manpower with business and technical knowledge in the field of agriculture.

- Demand for clerical/office workers will remain high during the remainder of the decade, and technological advancements in office and word processing equipment will require more sophisticated skills on the part of workers seeking the better job opportunities.

- Public service occupations are expected to show slow growth during the 1980s, but opportunities for corrections (jails and prisons) officials, security guards and some social service worker occupations appear favorable, depending primarily on the employment trends of government agencies.

ENROLLMENTS: PRODUCTIVITY AND PROFILES

The following information reflects the viability of the VCCS College Transfer cluster of academic programs and of the six clusters of VCCS occupational-technical programs.

Profile headcount characteristics for the six occupational-technical clusters. Fall headcount figures for the 1977 and 1981 years yield the following profile data.

- Fall headcount and AAS totals. The students in each cluster occupational-technical (O-T) program are shown by number and by percent of all O-T students.

Technology Clusters	1977 Number	1977 % of OT	1981 Number	1981 % of OT
Agricultural and Natural Resources	447	1.4	390	1.0
Arts & Design	731	2.4	998	2.7
Business	15910	51.2	19166	50.9
Engineering	6725	21.7	10059	26.7
Health	2344	7.5	2920	7.8
Public Service	4892	15.8	4089	10.9
Totals	31049		37677	

- The College Transfer cluster fall headcount figures were 13,565 in 1977 and 16,815 in 1981.
- Fall 1977 and fall 1981 headcount full-time, female and minority students shown as percentages of each cluster.

Percent of Subgroup in Each Cluster

Technology Cluster	Full-time '77	Full-time '81	Minority '77	Minority '81	Female '77	Female '81
Agricultural and Natural Resources	60%	57%	3%	3%	43%	59%
Arts and Design	48	46	18	15	63	65
Business	39	38	26	24	61	69
Engineering	50	42	19	16	6	9
Health	57	54	15	16	86	88
Public Service	39	42	25	26	37	53

Productivity. Measures of productivity are derived, in part, from five year totals and an average per year for fall FTES for graduates.

Technology Clusters	Fall FTES 5-Yr. Total	Fall FTES Average Per. Yr.	Graduates 5-Yr. Total	Graduates Average Per. Yr.
Agricultural and Natural Resources	1593	319	649	130
Arts and Design	2686	573	508	102
Business	49629	9926	11532	2306
Engineering	26975	5395	6805	1361
Health	9902	1980	5123	1035
Public Service	13294	2659	5222	1044

Other profile and productivity data are available in the cluster sections that follow.

EDUCATIONAL PROGRAMS CLUSTER INFORMATION AND DATA TABLES

Agricultural and Natural Resources Technology

Arts and Design Technology

Business Technology

Engineering and Industrial Technology

Health Technology

Public Service Technology

College Transfer

CLUSTER: AGRICULTURAL AND NATURAL RESOURCES TECHNOLOGY

DEMAND FOR PROGRAMS: MANPOWER/ECONOMIC

The field of Agriculture has referred for decades to agricultural production or farming. Agriculture as a major American industry employed 3.3 million workers in 1978; however, the number of agricultural employees is expected to decline by 12 percent to 2.9 million by 1990. Today, agriculture is closely related to many other industries including food and fiber processing, marketing and distribution, farm implementation production and sales, and feed and fertilizer manufacturing. Occupations requiring agricultural knowledge or skills have long existed in off-farm industries, but the number and variety of those jobs have increased dramatically in recent years. While the number of farming jobs has been reduced through new technological improvements and increased agricultural productivity, such technological advancements have created a need for workers with agriculture knowledge and skills for off-farm occupations.

The two major off-farm sectors of agriculture are Agricultural Services and Agribusiness. In the Agricultural Services sector, many occupations for community college graduates are suited to individuals who enjoy working with animals. The occupations include those in the field of veterinary medicine/animal health care and in livestock services. In agribusiness, there are numerous business related occupations such as accounting, sales, marketing, economics, and technical/scientific occupations in inspection, testing, agriculture mechanics, horticulture, and agricultural chemical manufacturing distribution and application.

The field of Natural Resources incorporates occupations primarily related to the conservation and management of forests, rangelands, and soil and water resources. The conservation occupations include forestry technicians, forest rangers, soil conservationists, range managers and other related occupations. The outlook for the conservation occupations is generally good for the remainder of the 1980s. However, increased numbers of graduates, especially in the field of forestry, may make employment competition keen, providing persons with advanced degrees or experience a better edge in finding employment. It is anticipated that employment in forestry occupations will continue to grow faster in private industry than in the government sector.

Virginia data on employment in occupations related to VCCS Agricultural and Natural Resources Technology programs are very limited, but suggest that competition may be keen for available openings. Many occupations for which an agricultural background would aid in obtaining entry employment are not reported in the available occupational demand data.

The TABLES for the Cluster: Agricultural and Natural Resources Technology include (1) agricultural and natural resources occupational trend information for the nation, (2) agricultural and natural resources occupational manpower demand and supply data for Virginia, and

(3) a summary of statewide employment opportunities referencing average annual job openings and projected 1982-85 job totals by VCCS agricultural and natural resources degree programs. The career interests of Virginia's high school seniors in fields related to agriculture and natural resources are also provided in the accompanying data. Also referenced are other Virginia institutions which offer program/coursework related to one or more of the VCCS's program areas in the cluster. Refer to ***Directory of Virginia's Postsecondary Education and Training Opportunities*** (SCHEV, 1979-80).

EXISTING AND PROPOSED PROGRAMS

The Virginia community colleges offered, as of 1981-82, some 14 Associate in Applied Science (AAS) degrees and 7 related diploma and certificate (D/C) awards as programs in the Cluster: Agricultural and Natural Resources Technology. While it is proposed that no new AAS programs be implemented in the **1984-86** biennium, several colleges have ***Six-Year Curricular Plans*** which propose 7 new AAS programs for future implementation. Three diploma and certificate programs are also proposed for the future. These existing and proposed agricultural business and natural resources programs are tied to four National Center for Educational Statistics (NCES) programs. The community colleges' existing and proposed programs are shown, below, grouped by the four NCES degree programs.

	Existing Programs*		Proposed Programs*	
PROGRAMS (**NCES**)	AAS	D/C	AAS	D/C
Agricultural Business	8	4	4	2
Agricultural Sciences	1	1	1	1
Animal Science	2	2	2	0
Renewable Natural Resources	3	0	1	0
Cluster Totals	14	7	8	3

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*Programs (NCES) include one or more majors and/or non-degree programs.

The Virginia regional and college service area placement of existing and proposed agricultural and natural resources technology programs is shown in the TABLES in this section. Refer to the MAP. Refer also to Appendix C: 1981-82 VCCS Curricular Matrix of Existing and Proposed Programs for 1982-90. This matrix presents, by college, the AAS, diploma, and certificate award offerings for these programs.

The ***VCCS Master Plan*** includes for the 1982-84 biennium two additional programs for the Cluster: Agricultural and Natural Resources. These programs have already received State Board for Community Colleges approval for implementation.

1982

College: Lord Fairfax
Degree Program: Agricultural Business
Major: Horticulture

1983

College: New River
Degree Program: Agricultural Business
Major: Horticulture

For the 1984-86 biennium, the System and the colleges have exercised caution, and no new programs have been proposed for implementation at the colleges. The reasons for the System's reservation about the initiation of new programs at the colleges arise from VCCS/college enrollment-productivity assessments.

State Board recommendations on programs for the 1986-88, and 1988-90 bienniums, are not included in the ***Master Plan***, since these proposed programs will be reviewed using new 1980 U.S. Census data and new Virginia occupational trend information. Programs proposed for 1986-90 are shown in Appendix C.

ENROLLMENTS: PRODUCTIVITY AND PROFILES

Ten of the 23 community colleges reported enrollments for programs in the Cluster: Agricultural and Natural Resources Technology. The table, following, shows enrollments, by college, in the clusters programs for the years 1977 to 1981.

	FALL HEADCOUNT		FALL FTES		GRADUATES	
College	5-Yr. Total	Average Per.Yr.	5-Yr. Total	Average Per.Yr.	5-Yr. Total	Average Per.Yr.
BRCC	443	88.6	342.4	68.5	191	38.2
DSLCC	268	53.6	274.1	54.8	171	34.2
JSRCC	38	7.6	26.6	5.3	4	.8
LFCC	254	50.8	242.1	48.4	63	12.6
NVCC	624	124.8	405	81.0	151	30.2
PDCCC	136	27.2	108.7	21.7	31	6.2
SVCC	38	7.6	22.1	4.4	9	1.8
TCC	103	20.6	60.6	12.1	1	.2
VWCC*	56	11.2	43.3	8.6	0	0
WCC	86	17.2	68.1	13.6	28	5.6
VCCS	2046	409.2	1593.3	318.7	649	129.8

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*Enrollments began in 1980.

For the period 1977-1981, college enrollment and productivity patterns for Agricultural and Natural Resources Technology programs are as follows:

Profile characteristics for 1977 and 1981 compared. Fall headcount characteristics for the Cluster: Agricultural and Natural Resources Technology are as follows. Refer to the set of TABLES which follows the description of the Cluster.

- Fall headcount and AAS totals. The 447 students enrolled in the cluster's programs in 1977 represented 1.4 percent of the total enrollments in Associate in Applied Science (AAS) Degree programs. In 1981, 1 percent of AAS enrollments amounted to 390 students.

- Full-time students. Students enrolled full-time in 1977 accounted for 60.2 percent and in 1981, 57.4 percent of the total cluster enrollment.

- Females and minorities. In 1977 female and minority enrollments in agricultural and natural resources programs accounted for 42.9 and 3.3 percent, respectively, of all cluster enrollments. In the fall, 1981, female enrollments were 58.7 percent and minorities were 2.8 percent.

- Age. The median age of students in agricultural and natural resources programs was 26 in 1977 and 24 in 1981.

Enrollment distribution and productivity. With the exception of the horticulture program, enrollments in the Cluster: Agricultural and Natural Resources Technology declined during the years 1977 to 1981.

- Distribution. The 14 programs (AAS) operating at ten community colleges as of 1981 provided students the opportunity to gain AAS degrees, diplomas, and certificates. During the fall quarters of 1977 to 1981, some 2046 students were enrolled. During the same five years, 649 graduates received awards.

- Productivity. Fall quarter headcount, fall FTES, and graduate data provide measures of productivity.

    - Average headcount. For each year from 1977 to 1981, an average of 409.2 students enrolled in agriculture and natural resources programs.

    - Average FTES. Each year from 1977 to 1981, students generated an average of 318.7 FTES.

    - Average number of graduates. Graduates from the cluster's programs averaged 129.8 per year.

    - Shift in program enrollments. Fall headcount enrollment declined from 447 in 1977 to 390 in 1981. The program, Agricultural Business (includes agribusiness and horticulture) gained enrollments from 180 in 1977 to 206 in 1981.

Program costs and student aid. Programs direct cost and students' success in obtaining financial aid have an impact on program management and student enrollment.

- Cost per **credit** hour. For coursework taken in Associate in Applied Science Degree programs, the average cost per credit hour is $25.26. For the Cluster: Agricultural and Natural Resources Technology, the cost is $30.86.
- Student financial aid. In the fall, 1980, the 95 students receiving financial aid represented 24.7 percent of all students enrolled in the cluster.

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CLUSTER: AGRICULTURAL AND NATURAL RESOURCES TECHNOLOGY

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TABLE I

DEMAND FOR PROGRAMS: MANPOWER/ECONOMIC

CLUSTER: AGRICULTURAL AND NATURAL RESOURCES TECHNOLOGY

TRENDS

- EMPLOYMENT IN AGRICULTURE, FARMING, AND RANCHING HAS DECLINED BY 50% IN THE LAST TWO DECADES TO 4% OF ALL WORKERS NATIONALLY IN 1978. DECLINE IS EXPECTED TO CONTINUE THROUGH THE 1980'S.
- AGRICULTURAL SERVICE AND AGRIBUSINESS OCCUPATIONS THAT REQUIRE AGRICULTURAL KNOWLEDGE AND SKILLS IN OFF-FARM SETTINGS ARE VARIED AND NUMEROUS. SCIENTIFIC AND SUPPLY/DISTRIBUTION AGRICULTURE-RELATED OCCUPATIONS SHOULD DIVERSIFY AND GROW IN DEMAND IN MOST MAJOR INDUSTRIES NATIONALLY.
- THE DEMAND FOR FORESTRY TECHNICIANS NATIONALLY WILL BE ABOVE AVERAGE IN THE 1980'S BUT CURRENT SUPPLY GREATLY EXCEEDS AVAILABLE JOBS AND THE DEPRESSED HOMEBUILDING INDUSTRY WILL AFFECT FUTURE DEMAND IN INDUSTRIES USING FORESTRY OCCUPATIONS.
- EMPLOYMENT OPPORTUNITIES IN THE LIFE SCIENCES SUCH AS HORTICULTURE AND AGRONOMY ARE EXPECTED TO BE GOOD NATIONALLY IN THE 1980'S BUT PRIMARILY FOR THOSE WITH ADVANCED EDUCATION DEGREES. (SOURCE: OCCUPATIONAL OUTLOOK HANDBOOK, 1980-81 EDITION, U.S. DEPARTMENT OF LABOR.)

OCCUPATIONAL MANPOWER DEMAND AND SUPPLY (STATEWIDE)

PROGRAMS	OIS OCCUPATIONS	1976-1982 AVG. ANNUAL OPENINGS STATE OF VA.	1979-80 SUPPLY VCCS	ALL SOURCES	COMMENTS
AGRIC. BUSINESS					
AGRIC. BUSINESS	AGRIC. SCIENTISTS FARM EQUIP. MECHANICS	60	71	880	574 OF 880 AT BACHELOR'S LEVEL OR ABOVE
HORTICULTURE	GROUNDSKEEPERS AND GARDENERS	430	20	493	
AGRIC. SCIENCES					
AGRONOMY	AGRIC. SCIENTISTS	10	7	581	574 OF 581 AT BACHELOR'S LEVEL OR ABOVE
LIVESTOCK	ANIMAL CARETAKERS	10	58	115	MAJORITY NON-VCCS SUPPLY IN EQUITATION AND FARRIER FIELDS
ANIMAL SCIENCE					
ANIMAL SCIENCE	ANIMAL CARETAKERS	10	58	115	MAJORITY NON-VCCS SUPPLY IN EQUITATION AND FARRIER FIELDS
ANIMAL LAB. ASSISTING	ANIMAL CARETAKERS	10	58	115	MAJORITY NON-VCCS SUPPLY IN EQUITATION AND FARRIER FIELDS
RENEWABLE NATURAL RESOURCES					
FORESTRY	FORESTERS LOGGING TRACTOR OPERATORS LOG INSPECTORS TIMBER CUTTING FOREST CONSERVATION WORKERS	90	35	229	86 OF 229 ARE NON-VCCS SUPPLY FROM AGRIC. RESOURCES PROGRAMS RATHER THAN FORESTRY PROGRAMS
NATURAL RESOURCE MGT. & SECURITY	FORESTERS FISH & GAME WARDENS	40	35	548	
WILDLIFE	FORESTERS FISH & GAME WARDENS	40	35	548	

TABLE II

DEMAND FOR PROGRAMS: MANPOWER/ECONOMIC (CONTINUED) CLUSTER: AGRICULTURAL AND NATURAL RESOURCES TECHNOLOGY

SUMMARY: STATEWIDE EMPLOYMENT OPPORTUNITIES

PROGRAM AREAS	ACTUAL 1976 JOBS	PROJECTED 1982 JOBS	PROJECTED 1985 JOBS	AVERAGE ANNUAL JOB OPENINGS
AGRICULTURAL BUSINESS	7,050	7,730	8,070	490
AGRICULTURAL SCIENCE	540	590	625	20
ANIMAL SCIENCE	260	290	315	10
RENEWABLE NATURAL RESOURCES	2,900	2,960	2,990	100

VIRGINIA HIGH SCHOOL SENIORS' INTERESTS IN FURTHER EDUCATION (DEPARTMENT OF EDUCATION SURVEY, 1980)

SURVEY INTEREST AREA	MALES	% OF MALE GRADUATES	FEMALES	% OF FEMALE GRADUATES
AGRICULTURE AND NATURAL RESOURCES	1,739	6.2	684	2.2

STATEWIDE PROGRAM OFFERINGS BY VCCS PROGRAM CLUSTER

THE DIRECTORY OF VIRGINIA'S POSTSECONDARY EDUCATION AND TRAINING OPPORTUNITIES (SCHEV, 1979-80) PROVIDES LISTS OF VIRGINIA COLLEGES/UNIVERSITIES AND PROPRIETARY SCHOOLS WHICH OFFER PROGRAMS/COURSEWORK RELATED TO ONE OR MORE OF THE COMMUNITY COLLEGE AWARD AREAS: ASSOCIATE DEGREE, DIPLOMA, OR CERTIFICATE. FOR THE CLUSTER--AGRICULTURAL AND NATURAL RESOURCES, REFER TO THE DIRECTORY WHICH LISTS INSTITUTIONS BY HEGIS CATEGORIES AS FOLLOWS:

ASSOCIATE DEGREE

AGRICULTURE (5402)
FORESTRY, WILDLIFE, FISHERIES (5403)
AGRONOMY (5490)
HORTICULTURE (5491)
NATURAL RESOURCES MANAGEMENT (5590)
ANIMAL LABORATORY (5296)

DIPLOMA/CERTIFICATE

AGRICULTURE (5402)

TABLE III

ENROLLMENTS: PRODUCTIVITY AND PROFILES

CLUSTER: AGRICULTURAL AND NATURAL RESOURCES TECHNOLOGY

TRENDS

- FALL HEADCOUNT ENROLLMENT HAS DECLINED FROM 447 IN 1977 TO 390 IN 1981. THE PROGRAM AREA--AGRICULTURAL BUSINESS (INCLUDES AGRIBUSINESS AND HORTICULTURE) GAINED ENROLLMENTS FROM 180 IN 1977 TO 206 IN 1981. DECLINING ENROLLMENTS DURING THE FIVE YEARS ALSO OCCURRED IN AGRICULTURAL SCIENCES (22 TO 12), ANIMAL SCIENCE (131 TO 115), AND RENEWABLE NATURAL RESOURCES (114 TO 57).
- FOR THE CLUSTER: AGRICULTURAL AND NATURAL RESOURCES, AN AVERAGE OF 318.7 FALL FTES WAS GENERATED. FALL FTES PRODUCTIVITY DECLINED FROM 359.0 IN 1977 TO 296.7 IN 1981.
- THE GRADUATES FROM PROGRAMS IN THE CLUSTER ACCOUNTED FOR 649 AWARDS OR 129.8 AWARDS PER YEAR. THE NUMBER OF AWARDS GIVEN PER YEAR DECLINED FROM 125 IN 1977 TO 105 IN 1981.

5-YEAR TOTALS AND AVERAGES: HEADCOUNT, FTES, AND GRADUATES

PROGRAM AREAS	FALL HEADCOUNT* 5-YR. TOTAL	FALL HEADCOUNT* AVERAGE PER YR.	FALL FTES* 5-YR. TOTAL	FALL FTES* AVERAGE PER YR.	GRADUATES* 5-YR. TOTAL	GRADUATES* AVERAGE PER YR.
AGRICULTURAL BUSINESS	828	165.6	554.80	111.0	132	26.4
AGRICULTURAL SCIENCES	102	20.4	85.87	17.2	33	6.6
ANIMAL SCIENCE	670	134.0	500.53	100.1	275	55.0
RENEWABLE NATURAL RESOURCES	446	89.2	452.13	90.4	209	41.8
CLUSTER TOTALS	2,046	409.2	1,593.33	318.7	649	129.8

FALL QUARTER HEADCOUNT PROFILE DATA FOR CLUSTER

PROFILE ITEMS	FALL 77 NUMBER	FALL 77 PERCENT	FALL 81 NUMBER	FALL 81 PERCENT
TOTAL HEAD COUNT	447	100.0	390	100.0
FULL-TIME	269	60.2	224	57.4
MINORITY	15	3.3	11	2.8
FEMALE	192	42.9	229	58.7
MEDIAN AGE	26	.	24	.

*INCLUDES DATA FROM PROGRAMS, DIPLOMA, AND CERTIFICATE ENROLLMENTS AND AWARDS

TABLE IV

ENROLLMENTS: PRODUCTIVITY AND PROFILES (CONTINUED) CLUSTER: AGRICULTURAL AND NATURAL RESOURCES TECHNOLOGY

5-YEAR TRENDS: NUMBER AND PERCENT DIFFERENCE

FALL HEADCOUNT

PROGRAM AREAS	1977 NUMBER	1981 NUMBER	DIFFERENCE FALL '77 TO FALL '81 N	%
AGRICULTURAL BUSINESS	180	206	26	14.4
AGRICULTURAL SCIENCES	22	12	-10	-45.5
ANIMAL SCIENCE	131	115	- 6	- 4.6
RENEWABLE NATURAL RESOURCES	114	57	-57	-50.0
CLUSTER TOTALS	447	390	-57	-12.8

FALL FTES

PROGRAM AREAS				
AGRICULTURAL BUSINESS	130.7	137.1	6.4	4.9
AGRICULTURAL SCIENCES	16.3	9.2	- 7.1	-43.6
ANIMAL SCIENCE	98.1	89.0	- 9.1	- 9.3
RENEWABLE NATURAL RESOURCES	113.9	61.5	-52.4	-46.0
CLUSTER TOTALS*	359.0*	296.7*	-62.3	-17.4

GRADUATES (ANNUAL)

PROGRAM AREAS				
AGRICULTURAL BUSINESS	22	15	- 7	-31.8
AGRICULTURAL SCIENCES	9	5	- 4	-44.4
ANIMAL SCIENCE	45	56	11	24.4
RENEWABLE NATURAL RESOURCES	49	29	-20	-40.8
CLUSTER TOTALS	125	105	-20	-16.0

*ROUNDING MAY CAUSE TOTALS TO BE SLIGHTLY DIFFERENT THAN INDIVIDUAL ENTRIES.

TABLE V

PROGRAM COSTS AND STUDENTS RECEIVING FINANCIAL AID

CLUSTER: AGRICULTURAL AND NATURAL RESOURCES TECHNOLOGY

PROGRAM/MAJOR COSTS PER CREDIT HOUR (1979-80)

PROGRAM (NCES)	NUMBER OF COLLEGES*	MINIMUM	MAXIMUM	MEDIAN
AGRICULTURAL BUSINESS	5	$19.67	$31.10	$24.53
AGRONOMY	1	28.32	28.32	28.32
ANIMAL SCIENCE	3	26.88	50.73	34.93
FORESTRY	1	30.86	30.86	30.86
HORTICULTURE	4	24.13	28.52	26.25
LIVESTOCK	1	34.77	34.77	34.77
RENEWABLE NATURAL RESOURCES	1	33.37	33.37	33.37
WILDLIFE	1	32.12	32.12	32.12

FINANCIAL AID STUDENTS

PROGRAM AREAS	FALL '79 FINAN. AID NUMBER	FALL '79 TOTAL IN PROGRAM	FALL '79 PERCENT FINAN. AID	FALL '80 FINAN. AID NUMBER	FALL '80 TOTAL IN PROGRAM	FALL '80 PERCENT FINAN. AID
AGRICULTURAL BUSINESS	15	144	10.4	22	169	13.0
AGRICULTURAL SCIENCES	7	22	31.8	3	15	20.0
ANIMAL SCIENCE	26	140	18.6	36	134	26.9
RENEWABLE NATURAL RESOURCES	41	100	41.0	38	83	45.8
TOTAL	89	406	21.9	99	401	24.7

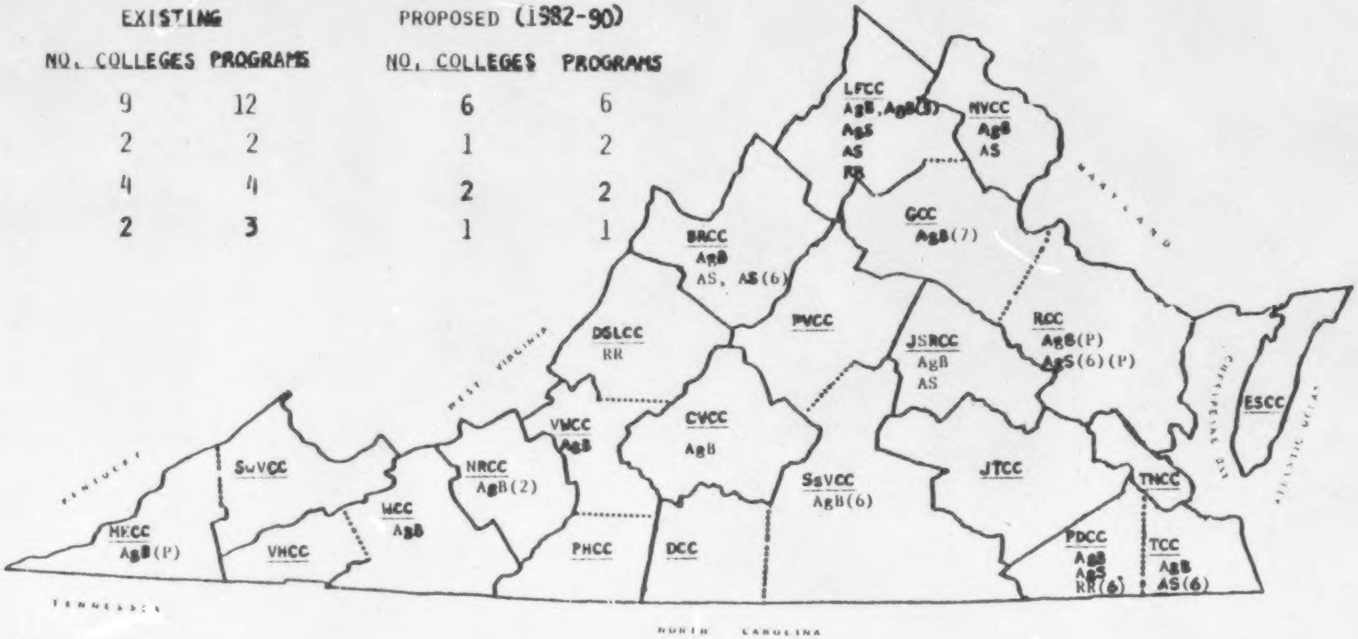
*NUMBER OF COLLEGES OFFERING PROGRAM IN THE 1979-80 YEAR

TABLE VI

MAP - VCCS EXISTING AND PROPOSED EDUCATIONAL PROGRAMS CLUSTER: AGRICULTURAL AND NATURAL RESOURCES TECHNOLOGY

SUMMARY: (INCLUDES DEGREE, DIPLOMA AND CERTIFICATE PROGRAMS)

PROGRAM AREAS	EXISTING		PROPOSED (1982-90)	
	NO. COLLEGES	PROGRAMS	NO. COLLEGES	PROGRAMS
AGB	9	12	6	6
AGS	2	2	1	2
AS	4	4	2	2
RR	2	3	1	1


LFCC
AgB, AgB(3)
AgS
AS
RR
NVCC
AgB
AS
MARYLAND
GCC
AgB(7)
BRCC
AgB
AS, AS(6)
PVCC
DSLCC
RR
WEST VIRGINIA
JSRCC
AgB
AS
RCC
AgB(P)
AgS(6)(P)
ESCC
CHESAPEAKE BAY
ATLANTIC OCEAN
VWCC
AgB
CVCC
AgB
KENTUCKY
SwVCC
NRCC
AgB(2)
SsVCC
AgB(6)
JTCC
TNCC
WCC
AgB
MECC
AgB(P)
VHCC
PHCC
DCC
PDCC
AgB
AgS
RR(6)
TCC
AgB
AS(6)
TENNESSEE
NORTH CAROLINA

PROGRAM AREA KEY:

AGB - AGRICULTURAL BUSINESS
AGS - AGRICULTURAL SCIENCES
AS - ANIMAL SCIENCE
RR - RENEWABLE NATURAL RESOURCES
(P) - PROPOSED DIPLOMA OR CERTIFICATE
(No.) - PROPOSED A.A.S. YEAR OF INITIATION
EXAMPLE: (4) = 1984

CLUSTER: ARTS AND DESIGN TECHNOLOGY

DEMAND FOR PROGRAMS: MANPOWER/ECONOMIC

The Arts and Design Technology Cluster represents a broad spectrum of occupations in the labor market including such occupational groups as interior design, commercial and graphic arts, printing, photography and media technology.

In the field of printing, employment is expected to increase at different rates for different occupations in the industry. Employment of technical, maintenance, and clerical workers in the printing industry should increase at a faster pace than the average for all occupations in the 1980s. The number of lithographic craft workers is expected to increase. On the other hand, since lithography does not require photoengraving, employment of photoengravers is expected to decline. The trend to computerization of typesetting operations will reduce the need for some machine operators in composing rooms and create a demand for more computer typesetters. More mechanics will be hired to maintain the industry's increasingly complex machinery. Based on projections by the Virginia Employment Commission, printing opportunities in Virginia are expected to be higher in general than the national average.

Major occupations associated with Arts and Design Technology programs also include display workers, interior designers and photographers. Employment of display workers is expected to grow faster than the average for all occupations through the 1980s. Employment will reflect the expansion of retail trade as well as the growing popularity of visual merchandising. In addition to jobs resulting from employment growth, openings will arise each year to replace experienced workers who retired, died, or transferred to other occupations. Employment opportunities will continue to be concentrated in large stores, most of which are located in metropolitan areas.

Employment of interior designers is expected to increase about as fast as the average for all occupations through the 1980s. Persons seeking beginning jobs in interior design are expected to face keen competition, since interior design is a competitive field that requires talent, training, and business ability. In addition, many applicants vie for the better jobs. Department and furniture stores are expected to employ an increasing number of designers as their share of design work for commercial establishments and public buildings increases. Employment of interior designers, however, is sensitive to changes in general economic conditions because people often forego design services when the economy slows down.

Employment of photographers is expected to grow about as fast as the average for all occupations through the 1980s. Employment will increase as business and industry place greater importance upon visual aids in meetings, stockholders reports, sales campaigns and public relations work. The employment of portrait and commercial photographers is expected to grow slowly, and competition for jobs as portrait and commercial photographers and photographer assistants is expected to be keen.

Opportunities for Arts and Design Technology occupations in Virginia, in general, appear to be competitive given the supply from various educational and training sources. As previously mentioned, the printing field appears to have some of the best opportunities for employment in Virginia over the next few years.

EXISTING AND PROPOSED PROGRAMS

The Cluster: Arts and Design Technology has two degree programs (NCES): Environmental Design which includes an Associate in Applied Science (AAS) degree in Interior Design; and Graphic Communications which offers AAS degrees as awards for such majors as Commercial Art, Graphic Arts, Media Advertising, Media Technology, Printing, and Photography. Presently, the community colleges offer in relation to this cluster, nine programs leading to the AAS degree and three diploma and certificate (D/C) awards. Existing program offerings and those proposed to be implemented for the years 1982-90 are shown below.

	Existing Programs*		Proposed Programs*	
Programs (NCES)	AAS	D/C	AAS	D/C
Environmental Design	2	0	0	0
Graphic Communications	7	3	4	2
Cluster Totals	9	3	4	2

---

*Programs include one or more majors and/or non-degree programs.

The Virginia regional and college service area placement of existing and proposed Arts and Design Technology programs is shown in the TABLES in this section of the *Chapter*. Refer to the MAP. Refer also to Appendix C: 1981-82 VCCS Curricular Matrix of Existing Programs and Proposed Programs for 1982-90. This matrix presents, by college, the AAS, diploma, and certificate Arts and Design Technology offerings for both existing and proposed programs.

The *VCCS Master Plan* proposes no new Arts and Design Technology programs for the 1982-84 and 1984-86 biennia. The colleges' *Six-Year Curricular Plans*, however, show one AAS degree program in Graphic Communications proposed for implementation in 1986 and another for 1989. Programs proposed for implementation for the 1986-88 and 1988-90 biennia are not formally addressed by this *Master Plan*. Programs to be implemented during the 1986-88 biennium, and thereafter, will be reviewed using new 1980 U.S. Census data and updated Virginia occupational trend information. Programs proposed for 1986-1990 are shown in Appendix C.

ENROLLMENTS: PRODUCTIVITY AND PROFILES

As of fall, 1981, eight of the community colleges reported having enrollments in Arts and Design Technology programs. The five-year total fall quarter enrollment figures and graduate data are shown in the table below.

	FALL HEADCOUNT		FALL FTES		GRADUATES	
College	5-Yr. Total	Average Per.Yr.	5-Yr. Total	Average Per.Yr.	5-Yr. Total	Average Per.Yr.
BRCC	20	4.0	16.5	3.3	0	0
CVCC	332	66.4	244.1	48.8	53	10.6
DCC	153	30.6	165.9	33.2	50	10
NVCC	1471	294.2	841.3	168.3	196	39.2
PVCC	15	3.0	8.7	1.7	5	1.0
TNCC	700	140.0	462.7	92.5	88	17.6
TCC	867	173.4	548.4	109.7	51	10.2
VWCC	519	103.8	398.7	79.7	65	13.0
VCCS	4077	815.4	2686.2	537.2	508	101.6

Profile characteristics for 1977 and 1981 compared. Fall headcount characteristics for the cluster are described by the following:

- Fall headcount and AAS totals. The 731 students enrolled in the fall, 1977 in Arts and Design Technology programs represented 2.4 percent of all students enrolled in AAS programs. By the fall of 1981, the 998 students in the cluster's programs accounted for 2.7 percent of AAS students.

- Full-time students. In 1977, full-time students in the fall quarter represented 48.3 percent of the cluster's program enrollments; in 1981, 46.2 percent.

- Females and minorities. Female enrollments are high in Arts and Design Technology programs. Females represented 62.5 percent of fall, 1977 cluster enrollments and 64.5 percent of fall, 1981 cluster enrollments. Fall quarter enrollments for minorities stood at 17.8 percent in 1977 and 15 percent in 1981.

- Age. The median age of students in Arts and Design Technology programs was 28 in 1977 and 25 in 1981.

Enrollment distribution and productivity. For those colleges offering programs in the Cluster: Arts and Design Technology, enrollment and graduation patterns have usually held firm or have shown increases across time.

- Distribution. Some eight colleges currently offer nine Arts and Design Technology AAS degree programs and three diploma or certificate awards. From 1977 to 1981, the headcount enrollments (aggregated for five fall quarters) totaled 4077. During the five-year period, 508 students graduated.

- Productivity. Fall headcount, fall FTES, and graduate figures provide measures of program productivity for the Cluster: Arts and Design Technology.
    - Average headcount. The five-year fall headcount totals, in the aggregate, produced an average of 815.4 students per each fall quarter, 1977 to 1981.
    - Average FTES. The average fall quarter FTES for the years 1977 to 1981 was 537. Over the five-years, fall quarter FTES totaled 2686.
    - Average number of graduates. For each year, 1977 to 1981, the average number of Arts and Design Technology graduates was 101.6 per year.
    - Shifts in program enrollments. For Environmental Design, specifically Interior Design, 9 students enrolled were reported for the first time in the fall, 1980. Accordingly, most growth occurred in Graphic Communications where fall headcount increased from 553 in 1977 to 665 in the fall, 1981; and Printing grew from 25 to 54 students in the same time span. Media Advertising Arts decreased from 153 to 99.

Program costs and student aid. Direct costs and student financial aid are important elements which influence program enrollments and administration.

- Cost per credit hour. For Arts and Design Technology programs the cost per credit hour was $24.44 (a 1979-80 figure). The average cost for all AAS programs was about the same -- $25.27.
- Student financial aid. In the fall, 1979, some 139 students or 17.8 percent of the cluster's 780 students received financial aid. In the fall, 1980, students receiving financial aid numbered 811 or 20.6 percent.

TABLES

CLUSTER: ARTS & DESIGN TECHNOLOGY

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ENROLLMENTS: PRODUCTIVITY AND PROFILES

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TABLE I

DEMAND FOR PROGRAMS: MANPOWER/ECONOMIC CLUSTER: ARTS & DESIGN TECHNOLOGY

TRENDS

- DISPLAY WORKERS AND FLORAL DESIGNERS CAN EXPECT ABOVE AVERAGE OPPORTUNITIES FOR EMPLOYMENT DURING THE 1980's.
- PHOTOGRAPHY OCCUPATIONS EXPECTED TO GROW AS FAST AS AVERAGE FOR ALL OCCUPATIONS DURING THE 1980's
- OPENINGS IN THE PRINTING INDUSTRY TRADES ARE PROJECTED TO VARY WITH THE TRADE SPECIALIZATIONS, BUT GENERALLY WILL INCREASE SLOWLY. A STRONG DEMAND IS EXPECTED FOR LITHOGRAPHERS.

OCCUPATIONAL MANPOWER DEMAND AND SUPPLY (STATEWIDE)

PROGRAMS	OIS OCCUPATIONS	1976-1982 AVG. ANNUAL OPENINGS STATE OF VA.	1979-82 SUPPLY		COMMENTS
			VCCS	ALL SOURCES	
ENVIRONMENTAL DESIGN INTERIOR DESIGN	DESIGNERS	100	88	367	DEMAND AND SUPPLY INCLUDE INDUSTRIAL DESIGNERS, DISPLAY WORKERS, FLORAL DESIGNERS, & COMMERCIAL ART.
GRAPHIC COMMUNICATIONS					
COMMERCIAL ART & GRAPHIC ART	PUBLIC RELATIONS ENGRAVERS MERCHANDISE DISPLAYERS DESIGNERS	220	96	799	
MEDIA ADVERTISING	PUBLIC RELATIONS DESIGNER	170	96	446	
MEDIA TECHNOLOGY	TELEVISION CAMERA OPERATORS	NOT AVAILABLE	0	26	SUPPLY FROM COMMERICIAL PHOTOGRAPHY PROGRAMS.
PRINTING	BOOKBINDERS COMPOSERS/TYPESETTERS ENGRAVERS PHOTOENGRAVERS/ LITHOGRAPHERS STRIPPERS-PHOTOGRAPHY PRESS & PLATE PRINTERS PLATEMAKERS PHOTOGRAPHIC PROCESS WORKERS PRESS ASSISTANTS & FEEDERS PRINTING PRESS OPERATORS	520	10	288	218 OF 288 ARE NON-VCCS SUPPLY FROM GRAPHIC ARTS PROGRAMS.
PHOTOGRAPHY	PHOTOGRAPHERS PHOTOGRAPHIC PROCESS WORKERS	160	10	256	

TABLE II

DEMAND FOR PROGRAMS: MANPOWER/ECONOMIC (CONTINUED) CLUSTER: ARTS & DESIGN TECHNOLOGY

SUMMARY: STATEWIDE EMPLOYMENT OPPORTUNITIES

PROGRAM AREAS	ACTUAL 1976 JOBS	PROJECTED 1982 JOBS	PROJECTED 1985 JOBS	AVERAGE ANNUAL JOB OPENINGS
ENVIRONMENTAL DESIGN	2080	2500	2710	100
GRAPHIC COMMUNICATIONS	13850	15920	16965	710

VIRGINIA HIGH SCHOOL SENIORS' INTERESTS IN FURTHER EDUCATION (DEPARTMENT OF EDUCATION SURVEY, 1980)

SURVEY INTEREST AREA	MALES	% OF MALE GRADUATES	FEMALE	% OF FEMALE GRADUATES
FINE AND APPLIED ARTS	1068	3.8	2247	7.3

STATEWIDE PROGRAM OFFERINGS BY VCCS PROGRAM CLUSTER

THE DIRECTORY OF VIRGINIA'S POSTSECONDARY EDUCATION AND TRAINING OPPORTUNITIES (SCHEV, 1979-80) PROVIDES LISTS OF VIRGINIA COLLEGES/UNIVERSITIES AND PROPRIETARY SCHOOLS WHICH OFFER PROGRAMS/COURSEWORK RELATED TO ONE OR MORE OF THE COMMUNITY COLLEGE AWARD AREAS: ASSOCIATE DEGREE, DIPLOMA, OR CERTIFICATE. FOR THE CLUSTER--ARTS & DESIGN TECHNOLOGY, REFER TO THE DIRECTORY WHICH LISTS INSTITUTIONS BY HEGIS CATEGORIES AS FOLLOWS:

ASSOCIATE DEGREE

COMMERCIAL ARTS, GRAPHICS FASHION DESIGN (5012)

GRAPHICS AND INTERIOR DESIGN (5088)

DIPLOMA/CERTIFICATE

PHOTOGRAPHY (5007)

COMMUNICATIONS/BROADCASTING (5008)

PRINTING AND LITHOGRAPHY (5009)

COMMERCIAL ARTS, GRAPHICS, FASHION DESIGN (5012)

MEDIA TECHNOLOGIST (5077)

CRAFTS TECHNOLOGIES (5399)

TABLE III

ENROLLMENTS: PRODUCTIVITY AND PROFILES — CLUSTER: ARTS AND DESIGN TECHNOLOGY

TRENDS

- FALL HEADCOUNT ENROLLMENT GREW FROM 731 IN 1977 TO 998 IN 1981. FOR ENVIRONMENTAL DESIGN--SPECIFICALLY INTERIOR DESIGN, HEADCOUNT ENROLLMENTS (9 HEADCOUNTS) WERE REPORTED FOR THE FIRST TIME IN THE FALL, 1980. ACCORDINGLY, MOST GROWTH OCCURRED IN GRAPHIC COMMUNICATIONS WHERE FALL HEADCOUNT INCREASED FROM 553 IN 1977 TO 665 IN FALL, 1981; AND PRINTING GREW FROM 25 TO 54 IN THE SAME TIME SPAN. MEDIA ADVERTISING ARTS DECREASED FROM 153 TO 99.
- FOR THE CLUSTER: ARTS AND DESIGN TECHNOLOGY, AN AVERAGE OF 537.2 FALL FTES WAS GENERATED EACH YEAR OF THE 1977-1981 PERIOD. FALL FTES PRODUCTIVITY INCREASED FROM 496.6 IN 1977 TO 652.5 IN 1981.
- THE CLUSTER PROGRAMS ACCOUNTED FOR 508 AWARDS DURING THE 5-YEAR PERIOD, YIELDING 101.6 AWARDS PER YEAR. THE NUMBER OF AWARDS GIVEN PER YEAR INCREASED FROM 99 IN 1977 TO 124 IN 1981.

5 YEAR TOTALS AND AVERAGES: HEADCOUNT, FTES, AND GRADUATES

	FALL HEADCOUNT*		FALL FTES*		GRADUATES*	
PROGRAM AREAS	5-YR. TOTAL	AVERAGE PER YR.	5-YR. TOTAL	AVERAGE PER YR.	5-YR. TOTAL	AVERAGE PER YR.
ENVIRONMENTAL DESIGN	48	9.6	30.8	6.2	13	2.6
GRAPHIC COMMUNICATIONS	4029	805.8	2655.4	531.1	495	99.0
CLUSTER TOTALS	4077	815.4	2686.2	537.2	508	101.6

FALL QUARTER HEADCOUNT PROFILE DATA FOR CLUSTER

PROFILE ITEMS	FALL 77 NUMBER	FALL 77 PERCENT	FALL 81 NUMBER	FALL 81 PERCENT
TOTAL HEADCOUNT	731	100.0	998	100.0
FULL-TIME	353	48.3	461	46.2
MINORITY	130	17.8	150	15.0
FEMALE	457	62.5	644	64.5
MEDIAN AGE	28	-	25	-

*INCLUDES DATA FROM PROGRAMS, DIPLOMA, AND CERTIFICATE ENROLLMENTS AND AWARDS.

TABLE IV

ENROLLMENTS: PRODUCTIVITY AND PROFILES (CONTINUED) CLUSTER: ARTS AND DESIGN TECHNOLOGY

5-YEAR TRENDS: NUMBER AND PERCENT DIFFERENCE

FALL HEADCOUNT

PROGRAM AREAS	1977 NUMBER	1981 NUMBER	DIFFERENCE FALL '77 TO FALL '81 N	%
ENVIRONMENTAL DESIGN	0	39	-	-
GRAPHIC COMMUNICATIONS	731	959	228	31.2
CLUSTER TOTALS	731	998	267	26.5

FALL FTES

PROGRAM AREAS	1977 NUMBER	1981 NUMBER	DIFFERENCE FALL '77 TO FALL '81 N	%
ENVIRONMENTAL DESIGN	0	24.9	-	-
GRAPHIC COMMUNICATIONS	496.6	627.7	131.1	26.4
CLUSTER TOTALS*	496.6	652.5*	155.9	31.4

GRADUATES (ANNUAL)

PROGRAM AREAS	1977 NUMBER	1981 NUMBER	DIFFERENCE FALL '77 TO FALL '81 N	%
ENVIRONMENTAL DESIGN	0	13	-	-
GRAPHIC COMMUNICATIONS	90	111	21	23.3
CLUSTER TOTALS	90	124	34	37.8

*ROUNDING MAY CAUSE TOTALS TO BE SLIGHTLY DIFFERENT THAN INDIVIDUAL ENTRIES.

TABLE V

PROGRAM COSTS AND STUDENTS RECEIVING FINANCIAL AID CLUSTER: ARTS AND DESIGN TECHNOLOGY

PROGRAM/MAJOR COSTS PER CREDIT HOUR (1979-80)

PROGRAM (NCES)	NUMBER OF COLLEGES*	MINIMUM	MAXIMUM	MEDIAN
ENVIRONMENTAL DESIGN				
GRAPHIC COMMUNITATIONS				
COMMERCIAL ART	4	$19.19	$26.11	$23.35
MEDIA ADVERTISING	1	23.10	23.10	23.10

FINANCIAL AID STUDENTS

PROGRAM AREAS	FALL '79 FINAN. AID NUMBER	FALL '79 TOTAL IN PROGRAM	FALL '79 PERCENT FINAN. AID	FALL '30 FINAN. AID NUMBER	FALL '80 TOTAL IN PROGRAM	FALL '80 PERCENT FINAN. AID
ENVIRONMENTAL DESIGN	0	0	0.0	1	9	11.1
GRAPHIC COMMUNICATIONS	139	780	17.8	165	802	20.6
TOTAL	139	780	17.8	166	811	20.6

*NUMBER OF COLLEGES OFFERING PROGRAM IN THE 1979-80 YEAR

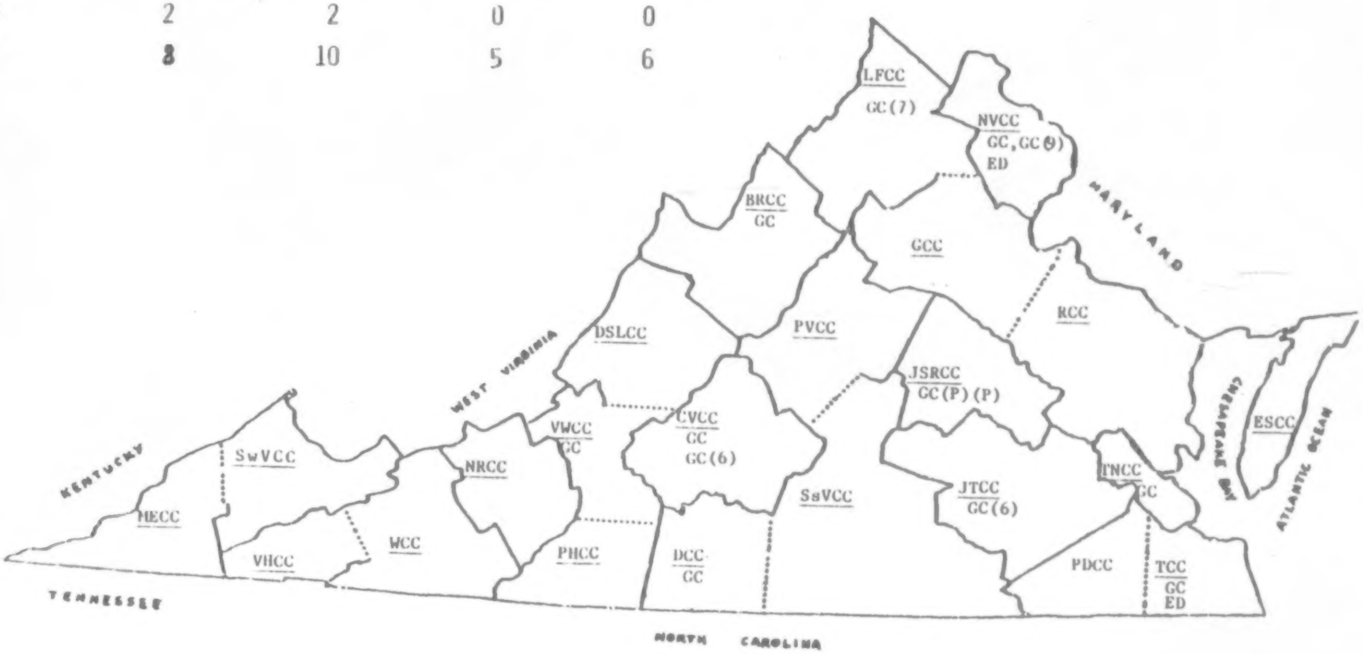
TABLE VI

MAP - VCCS EXISTING AND PROPOSED EDUCATIONAL PROGRAMS

CLUSTER: ARTS AND DESIGN TECHNOLOGY

SUMMARY: (INCLUDES DEGREE, DIPLOMA AND CERTIFICATE PROGRAMS)

PROGRAM AREAS	EXISTING		PROPOSED (1982-90)	
	NO. COLLEGES	PROGRAMS	NO. COLLEGES	PROGRAMS
ED	2	2	0	0
GC	8	10	5	6


LFCC
GC(7)
NVCC
GC, GC(8)
ED
MARYLAND
BRCC
GC
GCC
RCC
PVCC
DSLCC
WEST VIRGINIA
JSRCC
GC(P)(P)
CVCC
GC
GC(6)
VWCC
GC
ESCC
CHESAPEAKE BAY
ATLANTIC OCEAN
TNCC
GC
SwVCC
NRCC
KENTUCKY
MECC
SsVCC
JTCC
GC(6)
WCC
VHCC
PHCC
DCC
GC
PDCC
TCC
GC
ED
TENNESSEE
NORTH CAROLINA

PROGRAM AREA KEY:

ED	-	Environmental Design
GC	-	Graphic Communications
(P)	-	Proposed Diploma or Certificate
(NO.)	-	Proposed A.A.S. Year of Initiation

Example: (4) = 1984

CLUSTER: BUSINESS TECHNOLOGY

DEMAND FOR PROGRAMS: MANPOWER/ECONOMIC

The VCCS Cluster: Business Technology encompasses a very extensive number of educational programs and associated occupations. It is only possible to highlight the outlook for major occupational groups across this large sector of the American labor force. In 1978, about 19.4 million people were employed in the wholesale and retail trade occupations which include large groups such as sales workers, buyers, sales managers, food service workers, cashiers, and clerical workers. The Wholesale and Retail Trade industry also incorporates some technical and trade workers which are described in the Engineering/Industrial Technology Cluster. Employment in wholesale and retail trade is expected to increase about as fast as the average for all industries through the 1980s as sales rise in response to growth in population and income. Due to labor saving innovations, employment will not grow as fast as the volume in sales. The use of computers for inventory control, reordering, customer billing, and other tasks will limit the need for additional clerical workers.

In the Restaurant sector of the Wholesale and Retail Trade industry population growth, rising personal incomes, and more leisure time will contribute to a growing demand for restaurant services. Also, with the increasing number of women joining the work force, more and more families will find dining out a welcome convenience. Fast food and other chain restaurants are the fastest growing segment of this industry and are expected to need more food service workers to serve the increasing number of customers. Rising working productivity, however, will prevent employment from growing as rapidly as demand for restaurant services.

Finance, Insurance and Real Estate industries employed 6% (4.6 million) of all workers in 1978 nationally. This industry also employs large numbers of clerical and sales workers, as well as managers, bank officers, accountants and many professional level workers. Between 1978-1990, employment in both finance and real estate is expected to grow faster than the average for all industries, while employment growth in insurance should be about as fast as the average. Occupational grow rates will also vary, principally as a result of changes in technology or ways of doing business. Increasing use of data processing should continue to lessen the demand for workers in routine clerical and record-keeping functions, but increase demand in computer occupations.

The employment outlook for real estate workers nationally will remain limited as long as the depressed American economy, with its high interest rates, limits business activity in the housing market.

Employment in the field of Banking is expected to rise faster than average nationally for all industries during the 1980s. Most openings will occur at the clerical level with high turnover among tellers creating numerous job openings in this occupation. Particularly strong demand is expected for secretaries and for office machine and computer operators.

Jobs also will be created as banks continue to improve and expand services such as bank insurance cards and the handling of accounts for retail stores. The continued conversion to electronic data processing may lessen the demand for some bank workers, despite the expected increase in the demand for bank services.

The Insurance industry with 1.6 million people employed in 1978, will provide employment opportunities in clerical, sales, and managerial occupations at a rate faster than average for all occupations through the 1980s.

Another major industry related to the Business Technology Cluster is the Hotel industry which employed approximately 930,000 workers in 1978 nationally. A variety of occupations are found in the Hotel industry including general manager, food and beverage manager, personnel director, chef, and various clerical, food service and housekeeping occupations. The employment growth is expected to be faster than the average for all industries through the 1980s.

In Virginia several occupations associated with the Business Technology Cluster are projected to have above average demand (150 or more average annual job openings) for workers over the next few years. These occupations are as follows:

Computer and Data Processing Technicians
Accountants and Auditors
Buying and Purchasing Agents
Office, Sales, Store and Other Managers
Insurance Sales Personnel and Representatives
Real Estate Sales Personnel and Brokers
Secretarial, Clerical, and Receptionist Workers
Bank Tellers
Food Service Technicians and Workers
Storeroom, Warehouse, and Stock Clerk Personnel
Flight Attendants (Airlines)

EXISTING AND PROPOSED PROGRAMS

The Virginia Community College System serves the Commonwealth's business education needs by offering, through existing programs and/or majors, some 104 Associate in Applied Science (AAS) degrees and 117 business related diploma and certificate (D/C) awards. In addition, some 29 AAS and 19 diploma and certificate programs are proposed for implementation at the colleges during the years 1982-90. These business offerings are tied to a curriculum structure composed of 5 National Center for Education Statistics (NCES) Business programs. The community colleges' existing 1981-82 AAS, diploma and certificate business offerings as well as the proposed programs and majors for 1982-90 are grouped below, by the 5 NCES Business programs.

Programs (NCES)	Existing Programs* AAS	Existing Programs* D/C	Proposed Programs* AAS	Proposed Programs* D/C
Business Management	57	49	10	3
Business & Office	24	53	8	9
Data Processing	11	7	10	4
Marketing	8	6	1	3
Transportation & Material Moving	4	2	1	0
Cluster Totals	104	117	30	19

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*Programs (NCES) include one or more majors and/or non-degree programs.

The Virginia regional and college service area placement of existing and proposed Business Technology programs is shown in the TABLES in this section of the *Chapter*. Refer to the MAP. Refer also to Appendix C: 1981-82 VCCS Curricular Matrix of Existing Programs and Proposed Programs for 1982-90. This matrix presents, by college, the AAS, diploma, and certificate business offerings for both existing and proposed programs.

The *VCCS Master Plan* includes for the 1982-84 biennium the following programs and majors which have previously attained State Board for Community Colleges approval.

1982-83

Degree Programs

College: Danville
Degree Program: Business and Office
Major: Secretarial Science

College: Southwest Virginia
Degree Program: Data Processing
Major: Data Processing

Existing Degree Programs - New Major

College: John Tyler
Degree Program: Business Management
Major: Beverage Marketing

College: Northern Virginia
Degree Program: Business & Office
Major: Legal Assisting

1983-84

Degree Programs

College: Germanna
Degree Program: Data Processing
Major: Data Processing

Existing Degree Programs - New Major

College: Mountain Empire
Degree Program: Business Management
Major: Accounting

Using prioritization categories of Recommended for Approval, Recommended for Approval with Conditions, and Not Recommended, the State Board for Community Colleges approved five Business Technology programs proposed by the colleges for 1984-86. Board actions are as follows:

Recommended for Approval

College: New River
Degree Program: Data Processing -- (1984)
Major: Data Processing

Recommended with Conditions

College: Dabney S. Lancaster
Degree Program: Data Processing -- (1984)
Major: Data Processing

College: Patrick Henry
Degree Program: Data Processing -- (1984)
Major: Computer Programming

College: Southside Virginia
Degree Program: Data Processing -- (1984)
Major: Data Processing

College: Virginia Highlands
Degree Program: Data Processing -- (1984)
Major: Data Processing

Program majors under existing degree programs have also been approved for implementation during the 1984-86 biennium at the following colleges:

Recommended for Approval

College: Tidewater
Degree Program: Business and Office -- (1985)
Major: Office Administration and Management

Recommended with Conditions

College: Tidewater
Degree Program: Transportation and Material Moving -- (1985)
Major: Air Traffic Control

State Board recommendations on programs for the 1986-88 and 1988-90 biennia, are not included (as proposed by the colleges' *Six Year Curricular Plans*) in this *Master Plan*, since these proposed programs will be reviewed using new 1980 U.S. Census data and new Virginia occupational trend information. Programs proposed for 1986-90 are shown in Appendix C.

ENROLLMENTS: PRODUCTIVITY AND PROFILES

As of fall, 1981, each of the 23 Virginia community colleges reported enrollments in Business Technology programs. Refer to the accompanying table concerning VCCS/college enrollments in Business Technology programs for the period 1977-1981. College enrollment and productivity patterns for Business Technology programs are as follows:

Profile characteristics for 1977 and 1981. The Cluster: Business Technology student data yielded the following profile characteristics. Refer to the set of TABLES which follow the description of the Cluster.

- Fall headcount and AAS totals. The 15910 students enrolled in fall, 1977, Business Technology programs represented 51 percent of all students enrolled in Associate in Applied Science (AAS) programs. In fall, 1981, the percentage of the AAS total for the 19166 business students remained at 51 percent.

- Full-time students. Full-time fall quarter cluster enrollment figures show a slight decline--from 39.3 percent in 1977 to 37.6 percent in 1981.

- Females and minorities. Female enrollments represented 60.7 percent of fall, 1977 cluster headcount. By fall, 1981, the percentage had climbed to 69. Minority enrollments constituted 25.7 percent of fall quarter cluster headcount in 1977 and 23.7 in 1981.

- Age. The median age of students in Business Technology programs declined from 30 in 1977 to 26 in 1981.

Enrollment distribution and productivity. The strength and viability of Business Technology programs over the past five years indicate the need for colleges to expand current Business Technology programs and/or implement new programs to serve Virginia's communities.

- Distribution. The offering of 107 Business Technology degree programs and 117 related diploma and certificate awards assures that Virginians have the opportunity to acquire business knowledge and skills. During the five years -- 1977 to 1981, some 84232 students enrolled during the five fall quarters. During the five year period, 11532 graduated, earning Business Technology awards. Refer to the accompanying TABLE, Enrollments and Graduates in Business Technology: Totals and Averages by College.

TABLE: VCCS ENROLLMENTS

CLUSTER: BUSINESS TECHNOLOGY

ENROLLMENTS AND GRADUATES: TOTALS AND AVERAGES BY COLLEGE, 1977 - 1981

COLLEGE	FALL HEADCOUNT		FALL FTES		GRADUATES	
	5-YR. TOTAL	AVERAGE PER YR.	5-YR. TOTAL	AVERAGE PER YR.	5-YR. TOTAL	AVERAGE PER YR.
BLUE RIDGE	1697	339.4	1263.9	252.8	332	66.4
CENTRAL VIRGINIA	2994	598.8	1775.3	355.1	566	113.2
DABNEY S. LANCASTER	874	174.8	522.2	104.4	236	47.2
DANVILLE	1914	382.8	1594.1	318.8	459	91.8
EASTERN SHORE	326	65.2	280.0	56.0	87	17.4
GERMANNA	1085	217.0	687.3	137.5	164	32.8
J. SARGEANT REYNOLDS	11682	2336.4	6128.2	1225.6	914	182.8
JOHN TYLER	2169	433.8	1227.8	245.6	324	64.8
LORD FAIRFAX	1672	334.4	1085.3	217.1	256	51.2
MOUNTAIN EMPIRE	796	159.2	594.7	118.9	175	35.0
NEW RIVER	2937	587.4	1675.6	335.1	495	99.0
NORTHERN VIRGINIA	13764	2752.8	7383.0	1476.0	2239	447.8
PATRICK HENRY	2432	486.4	1314.9	263.0	281	56.2
PAUL D. CAMP	1102	220.4	704.5	140.9	187	37.4
PIEDMONT VIRGINIA	1325	265.0	856.4	171.3	186	37.2
RAPPAHANNOCK	1234	246.8	972.7	194.5	176	35.2
SOUTHSIDE VIRGINIA	1129	225.8	891.5	178.3	285	57.0
SOUTHWEST VIRGINIA	2805	561.0	1730.3	346.1	354	70.8
THOMAS NELSON	5799	1159.8	3681.3	736.2	751	150.2
TIDEWATER	18528	3705.6	9797.1	1959.4	1708	341.6
VIRGINIA HIGHLANDS	3603	720.6	1905.6	381.1	264	52.8
VIRGINIA WESTERN	5353	1070.6	3377.1	675.4	708	141.6
WYTHEVILLE	1333	266.6	1034.7	206.9	422	84.4
VCCS	84232	16846.4	49628.9	9925.8	11532	2306.4

- Productivity. Measures of program productivity for Business Technology are derived from fall headcount, fall FTES, and graduate figures.

  - Average headcount. The five-year fall headcount total figures yield an average of 16846 students enrolled each fall, 1977 to 1981.

  - Average FTES. Full-time equivalent students for the five fall quarters were 49628.9. This yielded an average fall quarter FTES of 9925.8 for each year 1977 to 1981.

  - Average number of graduates. For each year, 1977 to 1981, the average number of graduates was 2306.4.

  - Shifts in program enrollments. Enrollments in Business Technology have grown greatly, reflecting public and business need for knowledge and skills related to data processing. Fall quarter headcounts in Business Technology increased from 15910 in 1977 to 19166 -- a 20.5 percent gain, while headcount enrollment fell slightly in business and office as well as marketing program areas. Headcount climbed in data processing to 5127 in the fall of 1981. This represents a growth of 3141 or 158.2 percent over fall 1977 data processing enrollments.

Program costs and student aid. Resource allocation and students access to financial aid are important VCCS planning considerations.

- Cost per credit hour. For the six clusters of occupational-technical programs that lead to the Associate in Applied Science Degree, the average cost per credit hour is $25.26. The average cost per credit hour for the programs in the Cluster: Business Technology is the lowest of all clusters at $20.66. The Data Processing program average is only slightly more -- at $21.13. These are cost figures derived from 1979-80 data.

- Student financial aid. In the fall, 1980, some 3324 students (out of 17071 enrolled) received financial aid. Thus, the percentage for the Business Technology cluster was 19.5.

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DEMAND FOR PROGRAMS: MANPOWER/ECONOMIC CLUSTER: BUSINESS TECHNOLOGY

TRENDS

- CLERICAL OCCUPATIONS WILL INCREASE FASTER THAN AVERAGE OVER THE 1980's.
- INTRODUCTION OF NEW OFFICE TECHNOLOGY, ESPECIALLY IN WORD PROCESSING, WILL CHANGE THE NATURE OF THE WORK IN MANY CLERICAL OCCUPATIONS.
- IN THE DATA PROCESSING FIELD JOB OPPORTUNITIES FOR KEYPUNCH OPERATORS WILL CONTINUE TO CLIMB WHILE COMPUTER OPERATORS WILL INCREASE AS FAST AS THE AVERAGE FOR ALL OCCUPATIONS. EMPLOYMENT OPPORTUNITIES FOR PROGRAMMERS AND SYSTEMS ANALYSTS WILL REMAIN HIGH DURING THE 1980's.
- OPENINGS IN ACCOUNTING, BANKING CLERICAL, AND RESTAURANT INDUSTRY OCCUPATIONS ARE EXPECTED TO GROW FASTER THAN THE AVERAGE FOR ALL OCCUPATIONS THROUGH THE 1980's.
- SALES OCCUPATIONS ARE EXPECTED SHOW AVERAGE GROWTH OVER THE DECADE AND WILL VARY IN DEMAND ACROSS THE BUSINESS/INDUSTRY SECTORS.

OCCUPATIONAL MANPOWER DEMAND AND SUPPLY (STATEWIDE)

PROGRAMS	OIS OCCUPATIONS	1976-1982 AVG. ANNUAL OPENINGS STATE OF VA.	1979-80 SUPPLY		COMMENTS
			VCCS	ALL SOURCES	
BUSINESS MANAGEMENT ACCOUNTING	ACCOUNTANTS AUDITORS TAX PREPARERS BOOKKEEPERS	2680	287	3133	1751 OF 3133 FROM SECONDARY SCHOOL VOCATIONAL EDUCATION PROGRAMS.
BANKING & FINANCE	ACCOUNTANTS AUDITORS UNDERWRITERS CREDIT ANALYSTS BROKER'S FLOOR REP. STOCKS & BONDS SALES AGENTS BANK TELLERS LOAN CLOSERS	3390	307	2900	
H-R-I MGT.	FOOD SERVICE MGT. HOTEL/RESTAURANT MGT.	NOT AVAILABLE FOR MGT.	34	NOT APPLICABLE	
MANAGEMENT	PERSONNEL, LABOR RELATIONS EMPLOYMENT INTERVIEWERS	210	671	766	EXTREMELY LIMITED DEMAND DATA.
REAL ESTATE	APPRAISERS- REAL ESTATE REAL ESTATE AGENTS	190	34	6203	6153 OF SUPPLY FROM PROPRIETARY SCHOOLS
BUSINESS OFFICE LEGAL ASSISTING	LAW CLERKS PARALEGAL AIDES TITLE EXAMINERS TITLE SEARCHERS	80	46	99	

TABLES I & II

DEMAND FOR PROGRAMS: MANPOWER/ECONOMIC (CONT.)

CLUSTER: BUSINESS TECHNOLOGY

OCCUPATIONAL MANPOWER DEMAND AND SUPPLY (STATEWIDE)

PROGRAMS	OIS OCCUPATIONS	1976-1982 AVG. ANNUAL OPENINGS STATE OF VA.	1979-80 SUPPLY VCCS	ALL SOURCES	COMMENTS
BUSINESS OFFICE CONT.					
OFFICE ADMIN. & MGT.	ACCOUNTING & AUDITING CLERKS BOOKKEEPERS BANK TELLERS FINANCE OFFICERS UNDERWRITERS	3090	306	2900	
SECRETARIAL SCIENCE	SECRETARIES STENOGRAPHERS TYPISTS FILE CLERKS RECEPTIONISTS SWITCHBOARD OPERATORS GENERAL CLERKS OTHER CLERICAL	10800	1673	10122	
MEDICAL SECRETARY	HEALTH RECORDS TECHNOLOGISTS	50	35	166	
DATA PROCESSING					
DATA PROCESSING	COMPUTER PROGRAMMERS COMPUTER OPERATORS KEYPUNCH OPERATORS	670	284	2257	
MARKETING					
MERCHANDISING	BUYERS WHOLESALERS SALES CLERKS MERCHANDISE DISPLAYERS STOCK CLERKS	5430	71	7601	
TRANSPORTATION & MATERIAL MOVING					
AVIATION ADMIN.	AIR TRAFFIC CONTROLLERS FLIGHT ATTENDANTS	180	31	52	
AIR TRAFFIC CONTROL	AIR TRAFFIC CONTROLLERS	20	8	-	
TRAFFIC AND TRANSPORTATION	TRANSPORTATION AGENTS TRAFFIC CLERKS	50	-	-	

TABLE III

DEMAND FOR PROGRAMS: MANPOWER/ECONOMIC (CONTINUED)   CLUSTER: BUSINESS TECHNOLOGY

SUMMARY: STATEWIDE EMPLOYMENT OPPORTUNITIES

PROGRAM AREAS	ACTUAL 1976 JOBS	PROJECTED 1982 JOBS	PROJECTED 1985 JOBS	AVERAGE ANNUAL JOB OPENINGS
BUSINESS MANAGEMENT	213600	259830	283245	16250
BUSINESS AND OFFICE	178220	207700	222390	11460
DATA PROCESSING	13640	15940	17090	670
MARKETING	81760	96650	104135	5430
TRANSPORTATION & MATERIAL MOVING	4610	4980	5165	220

VIRGINIA HIGH SCHOOL SENIORS' INTERESTS IN FURTHER EDUCATION (DEPARTMENT OF EDUCATION SURVEY, 1980)

SURVEY INTEREST AREA	MALES	% OF MALE GRADUATES	FEMALE	% OF FEMALE GRADUATES
BUSINESS MANAGEMENT	3125	11.2	7783	25.2
COMPUTER & INFORMATION SCIENCE	1619	5.8	1874	6.1

STATEWIDE PROGRAM OFFERINGS BY VCCS PROGRAM CLUSTER

THE DIRECTORY OF VIRGINIA'S POSTSECONDARY EDUCATION AND TRAINING OPPORTUNITIES (SCHEV, 1979-80) PROVIDES LISTS OF VIRGINIA COLLEGES/UNIVERSITIES AND PROPRIETARY SCHOOLS WHICH OFFER PROGRAMS/COURSEWORK RELATED TO ONE OR MORE OF THE COMMUNITY COLLEGE AWARD AREAS: ASSOCIATE DEGREE, DIPLOMA, OR CERTIFICATE. FOR THE CLUSTER--BUSINESS TECHNOLOGY, REFER TO THE DIRECTORY WHICH LISTS INSTITUTIONS BY HEGIS CATEGORIES AS FOLLOWS:

ASSOCIATE DEGREE

BUSINESS & COMMERCE (5001)
ACCOUNTING, BOOKKEEPING (5002)
BANKING AND FINANCE (5003)
MARKETING & MERCHANIDISING (5004)
SECRETARIAL (GENERAL) (5005)
HOTEL & RESTAURANT MGT. (5010)
TRANSPORTATION/PUBLIC UTILITY (5011)
AVIATION ADMINISTRATION (5091)
REAL ESTATE (5093)
LEGAL ASSISTANT (5099)
DATA PROCESSING (GENERAL) (5101)
COMPUTER PROGRAMMING (5103)

DIPLOMA/CERTIFICATE

BUSINESS & COMMERCE (5001)
ACCOUNTING, BOOKKEEPING (5002)
BANKING AND FINANCE (5003)
MARKETING & MERCHANDISING (5004)
SECRETARIAL (GENERAL) (5005)
HOTEL & RESTAURANT MGT. (5010)
TRANSPORTATION/PUBLIC UTILITY (5011)
TRACTOR TRAILER DRIVER (5072)
INSURANCE (5092)
REAL ESTATE (PRINCIPLES) (5093)
MILITARY MANAGEMENT (5095)
LEGAL ASSISTANT (5099)

DATA PROCESSING (GENERAL) (5101)
KEYPUNCH OPERATOR (5102)
COMPUTER PROGRAMMING (5103)
COMPUTER OPERATING (5104)

TABLE IV

ENROLLMENTS: PRODUCTIVITY AND PROFILES CLUSTER: BUSINESS TECHNOLOGY

TRENDS

- FALL QUARTER HEADCOUNTS IN THE CLUSTER BUSINESS TECHNOLOGY INCREASED FROM 15,910 IN 1977 TO 19,166--A 20.5 PERCENT GAIN. WHILE HEADCOUNT ENROLLMENT FELL SLIGHTLY IN THE BUSINESS AND OFFICE AS WELL AS MARKETING PROGRAM AREAS, HEADCOUNT CLIMBED IN DATA PROCESSING TO 5,127 IN THE FALL 1981. THIS REPRESENTS A GROWTH OF 3,141 OR 158.2 PERCENT OVER FALL 1977 DATA PROCESSING ENROLLMENT. FALL HEADCOUNT ENROLLMENT PROFILE DATA SHOW FULL-TIME STUDENTS ACCOUNTING FOR MORE THAN A THIRD OF ALL BUSINESS TECHNOLOGY ENROLLMENTS. FROM 1977 TO 1981 FEMALE ENROLLMENTS IN BUSINESS TECHNOLOGY GREW FROM 60.7 PERCENT TO 69 PERCENT. MINORITY ENROLLMENTS DECLINED SLIGHTLY FROM 25.7 TO 23.7 PERCENT.
- FALL QUARTER FTES ENROLLMENTS GREW FROM 9,571.5 IN 1977 TO 11,201.9 IN 1981--A 17 PERCENT INCREASE. FOR EACH YEAR OF THE 5-YEAR PERIOD, FALL QUARTER FTES AVERAGED 9,925.3.
- GRADUATES SHOWED ONLY 2.7 PERCENT INCREASE WHEN THE 1977 AND 1981 YEARS ARE COMPARED. ON THE AVERAGE, 2,306 GRADUATES RECEIVED BUSINESS TECHNOLOGY AWARDS EACH YEAR FROM 1977 TO 1981.

5-YEAR TOTALS AND AVERAGES: HEADCOUNT, FTES, AND GRADUATES

PROGRAM AREAS	FALL HEADCOUNT* 5-YR. TOTAL	FALL HEADCOUNT* AVERAGE PER YR.	FALL FTES* 5-YR. TOTAL	FALL FTES* AVERAGE PER YR.	GRADUATES* 5-YR. TOTAL	GRADUATES* AVERAGE PER YR.
BUSINESS & MANAGEMENT	46685	9337.0	24548.2	4909.6	5986	1197.2
BUSINESS & OFFICE	18551	3710.2	13151.2	2630.2	3713	742.6
DATA PROCESSING	15973	3194.6	9884.2	1976.8	1260	252.0
MARKETING	2332	466.4	1628.6	325.7	420	84.0
TRANSPORTATION & MATERIAL MOVING	691	138.2	416.7	83.4	153	30.6
CLUSTER TOTALS	84232	16846.4	49628.9	9925.8	11532	2306.4

FALL QUARTER HEADCOUNT PROFILE DATA FOR CLUSTER

PROFILE ITEMS	FALL 77 NUMBER	FALL 77 PERCENT	FALL 81 NUMBER	FALL 81 PERCENT
TOTAL HEADCOUNT	15910	100.0	19166	100.0
FULL-TIME	6245	39.3	7198	37.6
MINORITY	4089	25.7	4551	23.7
FEMALE	9663	60.7	13228	69.0
MEDIAN AGE	30		26	

*INCLUDES DATA FROM PROGRAMS, DIPLOMA, AND CERTIFICATE ENROLLEMNTS AND AWARDS.

TABLE V

ENROLLMENTS: PRODUCTIVITY AND PROFILES (CONTINUED)

CLUSTER: BUSINESS TECHNOLOGY

5-YEAR TRENDS: NUMBER AND PERCENT DIFFERENCE

FALL HEADCOUNT

PROGRAM AREAS	1977 NUMBER	1981 NUMBER	DIFFERENCE FALL '77 TO FALL '81 N	%
BUSINESS MANAGEMENT	9382	9714	332	3.5
BUSINESS AND OFFICE	3932	3725	-207	-5.3
DATA PROCESSING	1986	5127	3141	158.2
MARKETING	484	465	-19	-3.9
TRANSPORTATION	126	135	9	7.1
CLUSTER TOTALS	15910	19166	3256	20.5

FALL FTES

PROGRAM AREAS				
BUSINESS MANAGEMENT	5006.2	5073.2	67	1.3
BUSINESS AND OFFICE	2896.6	2588.0	-308.6	-10.7
DATA PROCESSING	1255.6	3142.3	1886.7	150.2
MARKETING	343.3	317.3	-26.0	-7.6
TRANSPORTATION	69.7	81.2	11.5	16.5
CLUSTER TOTALS	9571.5*	11201.9*	1630.6	17.0

GRADUATES (ANNUAL)

PROGRAM AREAS				
BUSINESS MANAGEMENT	1208	1184	-24	-19.9
BUSINESS AND OFFICE	787	733	-54	-6.9
DATA PROCESSING	179	329	150	83.8
MARKETING	82	81	-1	-1.2
TRANSPORTATION	35	27	-8	-22.9
CLUSTER TOTALS	2291	2354	63	2.7

*ROUNDING MAY CAUSE TOTALS TO BE SLIGHTLY DIFFERENT THAN INDIVIDUAL ENTRIES.

TABLE VI

PROGRAM COSTS AND STUDENTS RECEIVING FINANCIAL AID — CLUSTER: BUSINESS TECHNOLOGY

PROGRAM/MAJOR COSTS PER CREDIT HOUR (1979-80)

PROGRAM (NCES)		NUMBER OF COLLEGES*	MINIMUM	MAXIMUM	MEDIAN
ACCOUNTING	(06.0101-07.1)**	17	$16.04	$22.57	$19.16
AIR TRAFFIC CONTROL	(49.9999-11.2)	1	22.89	22.89	22.89
AVIATION ADMINISTRATION	(49.9999-11.1)	1	21.54	21.54	21.54
BANKING/FINANCE	(06.0101-07.2)	9	15.40	22.25	19.16
DATA PROCESSING	(07.0301-09.1)	13	16.57	31.05	21.13
HOTEL-RESTAURANT-INSTITUTIONAL MANAGEMENT	(06.0101-07.3)	7	13.71	25.93	19.39
LEGAL SERVICES	(07.0601-08.1)	5	12.71	21.42	16.45
MANAGEMENT	(06.0101-07.4)	23	15.69	31.91	19.76
MERCHANDISING	(08.9999-10.1)	13	15.79	22.98	18.74
OFFICE ADMINISTRATION/MANAGEMENT	(07.0601-08.2)	2	17.83	21.68	19.80
REAL ESTATE	(06.0101-07.5)	4	14.77	19.84	16.54
SECRETARIAL SCIENCE	(07.0601-08.3)	23	18.63	30.62	24.36
TRAFFIC/TRANSPORTATION	(49.9999-11.3)	3	15.18	17.43	16.22

FINANCIAL AID STUDENTS

PROGRAM AREAS		FALL '79 FINAN. AID NUMBER	FALL '79 TOTAL IN PROGRAM	FALL '79 PERCENT FINAN. AID	FALL '80 FINAN. AID NUMBER	FALL '80 TOTAL IN PROGRAM	FALL '80 PERCENT FINAN. AID
BUSINESS AND MANAGEMENT	(06.0101)**	1027	9323	11.0	1178	9267	12.7
BUSINESS AND OFFICE	(07.0601)	1132	3680	30.8	1243	3629	34.3
DATA PROCESSING	(07.0301)	562	2963	19.0	768	3568	21.5
MARKETING	(08.9999)	114	466	24.5	122	444	27.5
TRANSPORTATION AND MATERIAL MOVING	(49.9999)	11	144	7.6	13	163	8.0
TOTAL		2846	16576	17.2	3324	17071	19.5

*NUMBER OF COLLEGES OFFERING PROGRAM IN THE 1979-80 YEAR

**VCCS EDUCATIONAL PROGRAM SUBCLUSTER GROUPS AND CODES

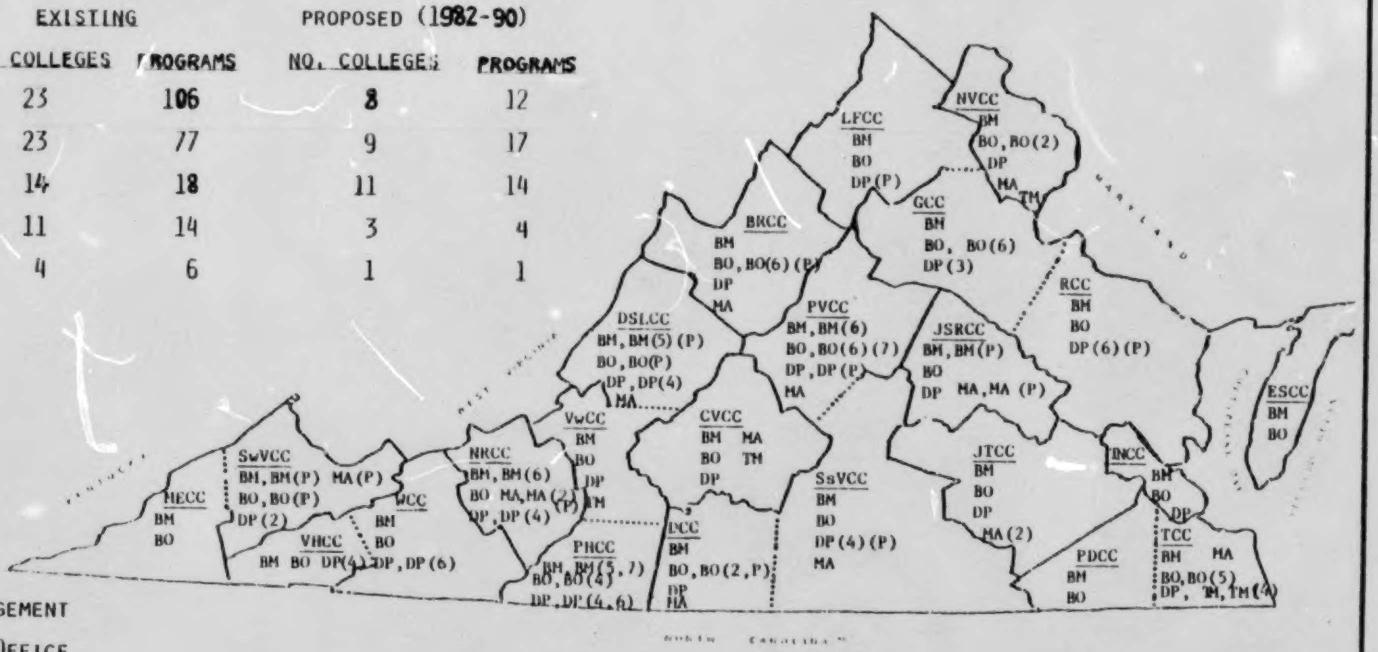
TABLE VII

MAP - VCCS EXISTING AND PROPOSED EDUCATIONAL PROGRAMS

CLUSTER: BUSINESS TECHNOLOGY

SUMMARY: (INCLUDES DEGREE, DIPLOMA AND CERTIFICATE PROGRAMS)

PROGRAM AREAS	EXISTING		PROPOSED (1982-90)	
	NO. COLLEGES	PROGRAMS	NO. COLLEGES	PROGRAMS
BM	23	106	8	12
BO	23	77	9	17
DP	14	18	11	14
MA	11	14	3	4
TM	4	6	1	1


NVCC
BM
BO, BO(2)
DP
MA
TM
LFCC
BM
BO
DP(P)
GCC
BM
BO, BO(6)
DP(3)
BRCC
BM
BO, BO(6) (P)
DP
MA
RCC
BM
BO
DP(6) (P)
DSLCC
BM, BM(5) (P)
BO, BO(P)
DP, DP(4)
MA
PVCC
BM, BM(6)
BO, BO(6) (7)
DP, DP (P)
MA
JSRCC
BM, BM(P)
BO
DP MA, MA (P)
ESCC
BM
BO
VwCC
BM
BO
DP
TM
CVCC
BM MA
BO TM
DP
NRCC
BM, BM(6)
BO MA, MA (2) (P)
DP, DP (4)
SwVCC
BM, BM(P) MA(P)
BO, BO(P)
DP (2)
MECC
BM
BO
VHCC
BM BO DP(4)
WCC
BM
BO
DP, DP (6)
PHCC
BM, BM(5, 7)
BO, BO(4)
DP, DP(4, 6)
DCC
BM
BO, BO(2, P)
DP
MA
SsVCC
BM
BO
DP (4) (P)
MA
JTCC
BM
BO
DP
MA (2)
INCC
BM
BO
DP
PDCC
BM
BO
TCC
BM MA
BO, BO(5)
DP, TM, TM(4)
MARYLAND
WEST VIRGINIA
KENTUCKY
NORTH CAROLINA

PROGRAM AREA KEY:

BM - BUSINESS MANAGEMENT
BO - BUSINESS AND OFFICE
DP - DATA PROCESSING
MA - MARKETING
TM - TRANSPORTATION AND MATERIALS MOVING
(P) - PROPOSED DIPLOMA OR CERTIFICATE
(No.) - PROPOSED A.A.S. YEAR OF INITIATION
EXAMPLES: (4) = 1984

CLUSTER: ENGINEERING AND INDUSTRIAL TECHNOLOGY

DEMAND FOR PROGRAMS: MANPOWER/ECONOMIC

The VCCS Cluster: Engineering and Industrial Technology encompasses a broad spectrum of occupational groups. The primary groups are construction-related technicians and workers, electrical/electronics service and repair workers, environmental technicians and maintenance workers, industrial production and maintenance workers, machine trade workers, mechanical design technicians, mining technicians and maintenance workers, and automotive mechanics.

The *Monthly Labor Review*, August 1981, indicated the following as some of the high employment growth technical occupations projected for the period 1978 to 1990.

Occupation	% Increase 1978-1990
Drafters	40.1
Electrical/Electronic Technicians	45.4
Mechanical Engineering Technicians	35.9
Computer Programmers	73.6
Computer Operators	87.9
Data Processing Machine Mechanics	147.6

Nationally, employment opportunities for engineering and science technicians are expected to be favorable through the 1980s. Opportunities will be best for graduates of postsecondary school technician training programs. Industrial expansion and the increasing complexity of modern technology underline the anticipated increase in demand for technicians. Additional technicians will be needed to work with the growing number of engineers and scientists in developing, producing, and distributing new and technically advanced products. Automation of industrial processes and continued growth of new areas of work such as environmental protection and energy development will add to the demand for technical personnel. The anticipated growth of research and development expenditures in industry and government should also increase requirements for technicians.

The employment growth outlook nationally through the 1980s for most technical occupations involving servicing and maintenance work is expected to be average or above average as compared to the average for all occupations. This outlook includes such occupations as appliance repairers, air conditioning/heat/refrigeration mechanics, auto body repairers and auto mechanics, business machine repairers, computer servicing technicians, television and radio service technicians, diesel mechanics, etc.

Drafting occupations are expected to increase about as **fast** as the average for all occupations through the 1980s because of industrial growth and the increasingly complex design problems of products and processes. Holders of an Associate or equivalent degree in Drafting will have the best prospects. Many large employers already require postsecondary technical education, though well qualified high school graduates who have studied drafting may find opportunities in some types of jobs. Photo-reproduction of drawings and the expanding use of electronic drafting equipment and computers will reduce the need for less skilled drafters.

Broadcast technicians will face strong competition, especially in major metropolitan areas where the number of qualified job seekers generally exceeds the number of openings.

The outlook for machine trade occupations (e.g. machinist, tool and die maker, machine tool operator, etc.) is expected to increase at about the same rate as the average for all occupations through the 1980s. Growth and demand for machine and metal parts will cause most of the increase. Technological developments and increased productivity of machinists are expected to keep employment from rising as fast as the demand for machine goods. Chief among these technological innovations is the use of the numerically controlled machine tools, which use computers to control various machining operations, significantly reducing the time required to perform machining operations. Much of the employment growth will occur in maintenance shops of manufacturing plants as industries continue to use a greater volume of complex machinery and equipment. Skilled maintenance machinists will be needed to prevent costly breakdowns in highly mechanized plants. Above average employment growth should also be expected in the welding trades.

The employment of wastewater treatment plant operators is expected to increase much faster than the average for all occupations through the 1980s, mainly as the result of construction of new treatment plants.

Employment in mining occupations is expected to increase in the 1980s but the amount of growth will depend on the level of coal production, types of mines opened, and the mining methods and machinery used.

Nuclear technology employment is likely to grow faster than the average for all industries in the 1980s. However, much public concern exists regarding the safety and environmental effects of the use of nuclear power. Continued controversy in this area could result in a lower rate of industrial growth than initially anticipated. Employment associated with research and development in the nuclear field is also expected to increase, though not as fast as in the occupational areas directly affected by nuclear plant construction. An increasing number of scientists, engineers and technicians will be needed to study methods to improve the efficiency of nuclear generation of electricity and other nuclear applications.

The outlook for Engineering and Industrial Technology occupations in Virginia is partly indicated by the following occupations that are projected by the Virginia Employment Commission to have 150 or more average annual job openings over the next few years.

Air Conditioning/Heating/Refrigeration Technicians
Drafting Technicians
Electrical/Electronics Technicians
Engineering and Science Technicians
Auto/Diesel Mechanics
Bricklayers
Heavy Equipment Operators
Plumbers
Machinists
Sheet Metal Workers
General Utility Maintenance Repairers
Welders
Truck Drivers

EXISTING AND PROPOSED PROGRAMS

The Virginia Community College System serves the Commonwealth's Engineering and Industrial Technology needs by offering, through existing programs and/or majors, some 79 Associate in Applied Science (AAS) degrees and 181 Engineering and Industrial Technology diploma and certificate (D/C) awards. In addition, some 39 AAS and 46 diploma and certificate programs are proposed for implementation at the colleges during the years 1982-90. These Engineering and Industrial Technology offerings are tied to a curriculum structure composed of 12 National Center of Education Statistics (NCES) Engineering and Industrial Technology programs. The community colleges' existing 1981-82 AAS, diploma and certificate Engineering and Industrial Technology offerings as well as the proposed programs and majors for 1982-1990 are grouped, below, by the 12 NCES Engineering and Industrial Technology programs.

	Existing Programs*		Proposed Programs*	
Programs (NCES)	AAS	D/C	AAS	D/C
Architectural and Construction Technology	6	25	1	7
Civil Technology	7	0	1	0
Electrical/Electronics Technology	21	37	7	2
Environmental Control Technology	5	18	12	4
General Engineering Technology	3	0	1	0
Industrial Production and Technology	3	17	3	9
Mechanical Technology	21	41	4	5
Mining & Petroleum Technology	2	3	1	3
Nuclear Technology	0	0	2	0
Science Technologies	0	0	1	1
Quality Control and Safety Technology	2	2	0	4
Vehicle and Mobile Equipment Technology	9	38	7	12
Cluster Totals	79	181	40	47

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*Programs (NCES) include one or more majors and/or non-degree programs.

The Virginia regional and college service area placement of existing and proposed Engineering and Industrial Technology programs is shown in the TABLES in this section. Refer to the MAP. Refer also to Appendix C: 1981-82 VCCS Curricular Matrix of Existing Programs and Proposed Programs for 1982-89. This matrix presents, by college, the AAS, diploma, and certificate Engineering and Industrial Technology offerings for both existing and proposed programs.

The *VCCS Master Plan* includes for the 1982-84 biennium the following programs which have already attained State Board for Community Colleges approval.

1982-83

College: Piedmont Virginia
Degree Program: Electrical/Electronics Technology
Major: Electronics

College: Southwest Virginia
Degree Program: Mining and Petroleum Technology
Major: Mined Land Reclamation

College: Wytheville
Degree Program: Electrical/Electronics Technology
Major: Electronics

1983-84

College: Mountain Empire
Degree Program: Environmental Control Technology
Major: Environmental and Science

College: Tidewater
Degree Program: Environmental Control Technology
Major: Energy Use and Conservation

Using prioritization categories of Recommended for Approval, Recommended for Approval with Conditions, and Not Recommended, the State Board for Community Colleges approved three Engineering and Industrial Technology programs proposed by the colleges for 1984-86. Board actions are as follows:

Recommended for Approval

College: New River
Degree Program: Environmental Control Technology -- (1984)
Major: Air Conditioning, Heating and Refrigeration

College: Tidewater
Degree Program: Civil Engineering Technology -- (1984)
Major: Civil Engineering

Recommended with Conditions

College: Piedmont Virginia
Degree Program: Science Technologies -- (1984)
Major: Science Laboratory

College: Patrick Henry
Degree Program: Electrical/Electronics -- (1984)
Major: Industrial Electronics

College: Patrick Henry
Degree Program: General Engineering -- (1984)
Major: General Engineering

College: Patrick Henry
Degree Program: Vehicle & Equipment Technology -- (1985)
Major: Automotive

Program majors under existing degree programs have also been approved for implementation during the 1984-86 biennium at the following colleges:

Recommended for Approval

College: John Tyler
Degree Program: Electrical/Electronics Technology -- (1984)
Major: Instrumentation

Recommended with Conditions

College: Tidewater
Degree Program: Vehicle & Equipment Technology -- (1985)
Major: Airframe and Power Plant Mechanics

State Board recommendations on programs for the 1986-88 and 1988-90 bienniums, are not included (as proposed by the colleges' *Six-Year Curricular Plans*) in this *Master Plan*, since these proposed programs will be reviewed using new 1980 U.S. Census data and new Virginia occupational trend information. Programs proposed for 1986-90 are shown in Appendix C.

ENROLLMENTS: PRODUCTIVITY AND PROFILES

As of fall, 1981, all of the 23 community colleges reported enrollments in Engineering and Industrial Technology programs. College enrollment and productivity patterns for Engineering and Industrial Technology programs are as follows:

Profile characteristics for 1977 and 1981. Student characteristics for the Cluster: Engineering and Industrial Technology follow. Refer to the set of TABLES presented after the Cluster description.

- Fall headcount and AAS totals. The 6725 students enrolled in fall, 1977 Engineering and Industrial Technology programs represented 21.7 percent of all students enrolled in Associate in Applied Science (AAS) programs. The percentage of AAS total for the 10059 students enrolled as of fall, 1981, was 26.7.

TABLE: VCCS ENROLLMENTS CLUSTER: ENGINEERING AND INDUSTRIAL TECHNOLOGY

ENROLLMENTS AND GRADUATES: TOTALS AND AVERAGES BY COLLEGE, 1977 - 1981

COLLEGE	FALL HEADCOUNT 5-YR. TOTAL	FALL HEADCOUNT AVERAGE PER YR.	FALL FTES 5-YR. TOTAL	FALL FTES AVERAGE PER YR.	GRADUATES 5-YR. TOTAL	GRADUATES AVERAGE PER YR.
BLUE RIDGE	926	185.2	799.3	159.9	240	48.0
CENTRAL VIRGINIA	1671	334.2	976.1	195.2	336	67.2
DABNEY S. LANCASTER	153	30.6	134.9	27.0	76	15.2
DANVILLE	1886	377.2	1933.0	386.6	631	126.2
EASTERN SHORE	169	33.8	154.4	30.9	51	10.2
GERMANNA	499	99.8	405.7	81.1	89	17.8
J. SARGEANT REYNOLDS	1728	345.6	956.9	191.4	251	50.2
JOHN TYLER	1153	230.6	754.7	150.9	208	41.6
LORD FAIRFAX	454	90.8	391.7	78.3	129	25.8
MOUNTAIN EMPIRE	1282	256.4	1010.9	202.2	250	50.0
NEW RIVER	2547	509.4	1856.8	371.4	606	121.2
NORTHERN VIRGINIA	4016	803.2	2561.5	512.3	788	157.6
PATRICK HENRY	524	104.8	241.3	48.3	32	6.4
PAUL D. CAMP	1003	200.6	731.0	146.2	273	54.6
PIEDMONT VIRGINIA	290	58.0	202.6	40.5	80	16.0
RAPPAHANNOCK	470	94.0	374.1	74.8	90	18.0
SOUTHSIDE VIRGINIA	1135	227.0	1024.7	204.9	275	55.0
SOUTHWEST VIRGINIA	5300	1060.0	2481.8	496.4	377	75.4
THOMAS NELSON	3644	728.8	2350.7	470.1	517	103.4
TIDEWATER	6387	1277.4	3830.7	766.1	483	96.6
VIRGINIA HIGHLANDS	1483	296.6	1421.5	284.3	432	86.4
VIRGINIA WESTERN	2561	512.2	1873.7	374.7	369	73.8
WYTHEVILLE	592	118.4	507.6	101.5	222	44.4
VCCS	39873	7974.6	26975.4	5395.1	6805	1361.0

- Full-time students. Approximately one-half of all students enrolled in these programs attended full-time in 1977. In 1981, the percent of full-time students decreased to 41.9 percent.

- Females and minorities. Male enrollments are predominant in Engineering and Industrial Technology programs. Males constituted 93.6 percent of cluster enrollments in 1977 and 91.3 percent in 1981, while female enrollment increased from 6.4 to 8.7 percent. Minority enrollments in the cluster have remained somewhat consistent at 18.5 percent in 1977 and 16.4 percent in 1981.

- Age. The median age of students in Engineering and Industrial technologies was 29 in 1977 and 26 in 1981.

Enrollment distribution and productivity. The strength and viability of Engineering and Industrial Technology programs over the past five years indicate the need for colleges to maintain most current Engineering and Industrial Technology programs or to initiate selectively new programs to serve different Virginia communities.

- Distribution. The offering of 260 Engineering and Industrial Technology programs by 23 colleges has afforded Virginians in all communities the opportunity to enroll in Engineering and Industrial Technology programs leading to AAS degrees, diplomas, and certificates. From 1977 to 1981, some 39873 students enrolled during the five fall quarters in these programs. During the same five years, 6805 graduates attained awards. Refer to the accompanying TABLE, Enrollments in Engineering and Industrial Technologies: Totals and Averages by College.

- Productivity. Measures of program productivity for the Cluster: Engineering and Industrial Technology, are obtained from fall headcount, fall FTES, and graduate figures.

    - Average headcount. The five-year fall headcount total figures yield an average of 7974.6 students enrolled each fall, 1977 to 1981.

    - Average FTES. The number of full-time equivalent students for the five fall quarters was 26975.4. This total yielded an average fall quarter FTES of 5395.1 for each year 1977 to 1981.

    - Average number of graduates. For each year, 1977 to 1981, the average number of graduates from Engineering and Industrial Technology programs was 1361.0. For the five-year period, 6805 graduate awards were given.

    - Shifts in program enrollments. Predictably, enrollments in Engineering and Industrial technologies have grown. Fall headcount enrollment showed an increase of 49.6 percent, growing from 6725 in 1977 to 10059 in 1981. The Mining and Petroleum Technology program showed the largest percent growth in enrollment; contrasting fall 1977 to fall 1981, the increase was 180.5 percent, this growth was followed by a 117.3 percent increase in Industrial Production and Technology. Electrical Electronics Technology increased for these two quarters by 50.9 percent; Architectural and Construction Technology by 56.6 percent; Environmental Control Technology by 28.5 percent and Mechanical Technology by 21.9 percent. Enrollments in Civil Technology showed decline, where fall headcount decreased from 205 in 1977 to 173 in 1981. Enrollments in Quality Control and Safety appear to have stabilized, enrolling an average of 66 students in fall quarters.

Program costs and student aid. Resource allocation and students' access to financial aid are important VCCS planning considerations.

- Cost per credit hour. For the six clusters of occupational-technical programs that lead to the Associate in Applied Science Degree, the average cost per credit hour is $25.26. The average cost per credit hour for those programs in the Cluster: Engineering and Industrial Technology is $27.71. Median costs in this cluster range from $21.47 in Industrial Production Technology to $53.96 in Marine Science.

- Student financial aid. In the fall, 1980, some 1412 students (16.5 percent) out of 8562 enrolled in Engineering and Industrial Technology programs received financial aid.

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CLUSTER: ENGINEERING/INDUSTRIAL TECHNOLOGY

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TABLE I

DEMAND FOR PROGRAMS: MANPOWER/ECONOMIC

CLUSTER: ENGINEERING/INDUSTRIAL TECHNOLOGY

TRENDS

- MACHINE TRADES OPENINGS ARE EXPECTED TO INCREASE AT THE AVERAGE FOR ALL OCCUPATIONS DURING THE 1980's
- OPPORTUNITIES FOR MOST ENGINEERING AND SCIENCE TECHNOLOGIES ARE EXPECTED TO BE FAVORABLE TO THE 1980's, EXCEPT FOR BROADCASTING TECHNICIANS. EMPLOYMENT OPPORTUNITIES FOR ELECTRONICS TECHNICIANS LOOK ESPECIALLY STRONG FOR VIRGINIA.
- ABOVE AVERAGE OPENINGS WILL EXIST FOR WASTEWATER TREATMENT PLANT OPERATORS AND FOR WELDERS NATIONWIDE.
- IN GENERAL, EMPLOYMENT IN OCCUPATIONS IN MINING, MANUFACTURING, AND CONSTRUCTION INDUSTRIES WILL INCREASE DEPENDING UPON THE GROWTH OF THE SPECIFIC INDUSTRY AND THE OVERALL ECONOMIC CONDITIONS IN THE NATION, STATE, AND REGION.

OCCUPATIONAL MANPOWER DEMAND AND SUPPLY (STATEWIDE)

PROGRAMS	OIS OCCUPATIONS	1976-1982 AVG. ANNUAL OPENINGS STATE OF VA.	1979-80 SUPPLY VCCS	ALL SOURCES	COMMENTS
ARCHITECTURAL & CONSTRUCTION TECHNOLOGY					
ARCHITECTURE	DRAFTERS	270	202	860	622 OF 860 SUPPLY FROM SECONDARY SCHOOL PROGRAMS.
CONSTRUCTION	CONSTRUCTION INSPECTORS CARPENTERS BRICKMASONS CONCRETE FINISHERS PLUMBERS TILE SETTERS METER INSTALLERS WELDERS	2390	81	2372	
CIVIL TECHNOLOGY					
CIVIL	SURVEYORS SURVEYOR'S HELPERS	120	34	41	
URBAN/REGIONAL PLANNING AND DEVELOPMENT	URBAN & REGIONAL PLANNERS	10	23	23	
ELECTRICAL/ELECTRONICS TECHNOLOGY					
BROADCAST ENGINEER	BROADCAST TECHNICIAN TELEVISION CAMERA OPERATOR	20	3	270	241 OF 270 FROM PROPRIETARY PROGRAMS. DATA ON PROPRIETARY SUPPLY WAS INCOMPLETE.
ELECTRICAL/ELECTRONICS	ELECTRONIC TECHNICIANS ELECTRICIANS DATA PROCESSING MACHINE MECHANICS APPLIANCE REPAIRERS OFFICE MACHINE REPAIRERS SIGNAL MAINTAINERS ELECTRICAL MOTOR REPAIRERS TELEPHONE INSTALLERS/REPAIRERS ELECTRONIC WIRERS	1480	463	2204	

TABLE I

DEMAND FOR PROGRAMS: MANPOWER/ECONOMIC (CONT.) CLUSTER: ENGINEERING/INDUSTRIAL TECHNOLOGY

OCCUPATIONAL MANPOWER DEMAND AND SUPPLY (STATEWIDE)

PROGRAMS	OIS OCCUPATIONS	1976-1982 AVG. ANNUAL OPENINGS STATE OF VA.	1979-80 SUPPLY VCCS	ALL SOURCES	COMMENTS
ELECTRICAL/ELECTRONICS TECHNOLOGY CONT.					
INSTRUMENTATION	ELECTRICAL/ELECTRONICS TECH. INSTRUMENT REPAIRERS MAINTENANCE ELECTRONICS	360	463	593	27 COMPLETERS WITH SPECIFIC TRAINING IN AN INSTRUMENTATION PROGRAM.
INDUSTRIAL ELECTRONICS	ELECTRICAL/ELECTRONICS TECH. ELECTRICAL/ELECTRONICS REPAIRERS & MAINTENANCE	410	402	995	SUPPLY/DEMAND EXCLUDES MOST GENERAL ELECTRICIANS.
ENVIRONMENTAL CONTROL					
AIR CONDITIONING, HEATING & REFRIGERATION	REFRIGERATION MECHANICS FURNACE INSTALLERS OIL BURNER INSTALLERS APPLIANCE INSTALLERS AND REPAIRERS AIR CONDITIONING MECHANICS	220	120	391	
ENERGY USE & CONSERVATION	SEE 15.3 AND 15.4				
ENVIRONMENTAL SCIENCE	INSPECTORS PUMP STATION OPERATORS WATER TREATMENT PLANT OPERATORS CHEMICAL OPERATORS	150	39	45	
ENVIRONMENTAL & SCIENCE	PUMP STATION OPERATORS WATER TREATMENT PLANT OPERATORS	30	20	26	
CHEMICAL	CHEMICAL OPERATOR A	40	20	26	
ENERGY TECHNOLOGY	POWER STATION OPERATORS STATIONERY ENGINEERING OCCUP.	110	42	47	
GENERAL ENGINEERING TECH.					
GENERAL ENGINEERING	ELECTRICAL/ELECTRONICS TECH. AIRCRAFT MECHANICS ENGINEERING AIDES	410	337	499	MANY ENGINEERING TECHNOLOGY FIELDS NOT REPRESENTED IN DATA.

TABLE I

DEMAND FOR PROGRAMS: MANPOWER/ECONOMIC (CONT.)

CLUSTER: ENGINEERING/INDUSTRIAL TECHNOLOGY

OCCUPATIONAL MANPOWER DEMAND AND SUPPLY (STATEWIDE)

PROGRAMS	OIS OCCUPATIONS	1976-1982 AVG. ANNUAL OPENINGS STATE OF VA.	1979-80 SUPPLY VCCS	1979-80 SUPPLY ALL SOURCES	COMMENTS
INDUSTRIAL PRODUCTION & TECH.					
FURNITURE PRODUCTION	CABINET MAKERS FURNITURE FINISHERS UPHOLSTERERS WOOD MACHINISTS WOOD LAYOUT MARKERS PATTERNMAKERS	260	2	242	
INDUSTRIAL	PARTIAL 16.1	-	-	-	DATA NOT AVAILABLE.
INDUSTRIAL MACHINERY MAINTENANCE & REPAIR	ELECTRICAL/ELECTRONICS TECHNICIANS BOILERMAKERS MILLWRIGHTS FARM EQUIPMENT MECHANICS ENGINEERING EQUIPMENT MECHANIC MACHINE ADJUSTERS STATIONERY BOILER FIRERS RAILROAD CAR REPAIRERS	1160	392	942	SECONDARY VOCATIONAL EDUCATIONAL SUPPLY IN OTHER CONSTRUCTION AND MAINTENANCE WAS EXCLUDED.
MECHANICAL TECHNOLOGY					
DRAFTING & DESIGN	DRAFTERS	270	202	860	PROPRIETARY SUPPLY DATA INCOMPLETE.
MACHINE	MACHINE TOOL SETTERS LAYOUT MARKERS - METAL MACHINISTS MILLWRIGHTS TOOLMAKERS DIEMAKERS SHIPFITTERS GRINDING MACHINE OPERATORS FILERS/CHIPPERS/GRINDERS	870	87	422	SECONDARY VOCATIONAL EDUCATIONAL SUPPLY IN OTHER CONSTRUCTION AND MAINTENANCE WAS EXCLUDED.
MARINE SCIENCE	SHIP ENGINEERS MERCHANT SAILORS	20	2	21	VCCS PROGRAM NOT RELATED TO OES OCCUPATIONS.
MECHANICAL	DRAFTERS AIRCRAFT MECHANICS	350	238	899	MANY ENGINEERING TECHNOLOGY OCCUPATIONS NOT REPRESENTED IN DATA.
MINING AND PETROLEUM					
MINING	MINE MACHINERY REPAIR INSPECTORS	150	19	33	SUPERVISORY OCCUPATIONS NOT FULLY REPRESENTED.

DEMAND FOR PROGRAMS: MANPOWER/ECONOMIC (CONT.)

CLUSTER: ENGINEERING/INDUSTRIAL TECHNOLOGY

OCCUPATIONAL MANPOWER DEMAND AND SUPPLY (STATEWIDE)

PROGRAMS	OIS OCCUPATIONS	1976-1982 AVG. ANNUAL OPENINGS STATE OF VA.	1979-80 SUPPLY VCCS	1979-80 SUPPLY ALL SOURCES	COMMENTS
NUCLEAR TECHNOLOGY NUCLEAR	-	-	-	-	DATA NOT AVAILABLE.
QUALITY CONTROL AND SAFETY TECHNOLOGY					
OCCUPATIONAL SAFETY & HEALTH	SAFETY INSPECTORS CONSTRUCTION INSPECTORS CLAIMS EXAMINERS	190	46	78	
QUALITY & RELIABILITY CONTROL	INSPECTORS EXCEPT CONSTRUCTION	80	-	-	
VEHICLE & MOBILE EQUIPMENT TECHNOLOGY					
AUTOMOTIVE	AUTOMOTIVE BODY REPAIRERS AUTOMOTIVE MECHANICS	1020	155	1827	1060 OF 1827 FROM SECONDARY SCHOOL AUTOMOTIVE PROGRAMS.
DIESEL MECHANICS	BUS/TRUCK DIESEL ENGINE MECHANICS	120	14	127	

TABLE II

DEMAND FOR PROGRAMS: MANPOWER/ECONOMIC (CONTINUED) CLUSTER: ENGINEERING & INDUSTRIAL TECHNOLOGY

STATEWIDE PROGRAM OFFERINGS BY VCCS PROGRAM CLUSTER

THE DIRECTORY OF VIRGINIA'S POSTSECONDARY EDUCATION AND TRAINING OPPORTUNITIES (SCHEV, 1979-80) PROVIDES LISTS OF VIRGINIA COLLEGES/UNIVERSITIES AND PROPRIETARY SCHOOLS WHICH OFFER PROGRAMS/COURSEWORK RELATED TO ONE OR MORE OF THE COMMUNITY COLLEGE AWARD AREAS: ASSOCIATE DEGREE, DIPLOMA, OR CERTIFICATE. FOR THE CLUSTER--ENGINEERING & INDUSTRIAL TECHNOLOGY, REFER TO THE DIRECTORY WHICH LISTS INSTITUTIONS BY HEGIS CATEGORIES AS FOLLOWS:

ASSOCIATE DEGREE

MECHANICAL AND ENGINEERING (5301)
ENGINEERING GRAPHICS (5303)
ARCHITECTURAL DRAFTING (5304)
AUTOMOTIVE (GENERAL) (5306)
CIVIL ENGINEERING TECHNOLOGY (5309)
ELECTRONICS & MACHINE MAINTENANCE (5310)
INDUSTRIAL TECHNOLOGY (GENERAL) (5312)
TEXTILE TECHNOLOGY (5313)
INSTRUMENTATION TECHNOLOGY (5314)
NUCLEAR TECHNOLOGY (5316)
CONSTRUCTION TECHNOLOGIES (GENERAL) (5317)
BUILDING CONSTRUCTION TECHNOLOGY (5390)
OCCUPATIONAL SAFETY & HEALTH (5392)
URBAN AND REGIONAL PLANNING (5393)
MINING & RELATED TECHNOLOGIES (5395)
ENGINEERING TECHNOLOGY (GENERAL) (5397)
MARINE AND OCEANOGRAPHIC TECHNOLOGY (5406)
PUBLIC HEALTH AND SANITATION INSPECTION (5408)
ENVIRONMENTAL AND SCIENCE TECHNOLOGY (5493)

DIPLOMA/CERTIFICATE

DATA EQUIPMENT MAINTENANCE (5105)
MECHANICAL AND ENGINEERING (5301)
ENGINEERING GRAPHICS (5303)
ARCHITECTURAL DRAFTING (5304)
AUTOMOTIVE (GENERAL) (5306)
DIESEL TECHNOLOGY (5307)
WELDING (5308)
CIVIL ENGINEERING TECHNOLOGY (5309)
ELECTRONICS & MACHINE MAINTENANCE (5310)
ELECTROMECHANICAL (VENDING) (5311)
INDUSTRIAL TECHNOLOGY (GENERAL) (5312)
MECHANICAL TECHNOLOGY (MACHINIST) (5315)
CONSTRUCTION TECHNOLOGIES (GENERAL) (5317)
FURNITURE & UPHOLSTERY PRODUCTION & REPAIR (5387)
BUILDING CONSTRUCTION TECHNOLOGY (5390)
GROUND WATER RESOURCE TECHNOLOGY (5394)
MINING & RELATED TECHNOLOGIES (5395)
MARINE AND OCEANOGRAPHIC TECHNOLOGY (5406)
PUBLIC HEALTH AND SANITATION INSPECTION (5408)
ENVIRONMENTAL AND SCIENCE TECHNOLOGY (5493)

TABLE III

DEMAND FOR PROGRAMS: MANPOWER/ECONOMIC (CONTINUED) CLUSTER: ENGINEERING & INDUSTRIAL TECHNOLOGY

SUMMARY: STATEWIDE EMPLOYMENT OPPORTUNITIES

PROGRAM AREAS	ACTUAL 1976 JOBS	PROJECTED 1982 JOBS	PROJECTED 1985 JOBS	AVERAGE ANNUAL JOB OPENINGS
ARCHITECTURAL & CONSTRUCTION TECHNOLOGY	38090	47270	51860	2660
CIVIL TECHNOLOGY	2910	3430	3690	130
ELECTRICAL/ELECTRONICS TECHNOLOGY	35410	41420	44425	1580
ENVIRONMENTAL CONTROL TECHNOLOGY	9630	10800	11385	480
GENERAL ENGINEERING TECHNOLOGY	9970	11600	12415	410
INDUSTRIAL PRODUCTION & SAFETY TECHNOLOGY	22030	25430	27230	1090
MECHANICAL TECHNOLOGY	28450	33390	36060	1510
MINING & PETROLEUM TECHNOLOGY	2880	3140	3270	120
NUCLEAR TECHNOLOGY	*	*	*	*
SCIENCE TECHNOLOGIES	*	*	*	*
QUALITY CONTROL & SAFETY TECHNOLOGY	500	560	590	10
VEHICLE & MOBILE EQUIPMENT TECHNOLOGY	20980	25040	27070	1140

*EMPLOYMENT OPPORTUNITIES DATA NOT AVAILABLE.

VIRGINIA HIGH SCHOOL SENIORS' INTERESTS IN FURTHER EDUCATION (DEPARTMENT OF EDUCATION SURVEY, 1980)

SURVEY INTEREST AREA	MALES	% OF MALE GRADUATES	FEMALE	% OF FEMALE GRADUATES
ARCHITECTURE & ENVIRONMENTAL DESIGN	1177	4.2	353	1.1
ENGINEERING	4357	15.6	467	1.5

TABLE IV

ENROLLMENTS: PRODUCTIVITY AND PROFILES

CLUSTER: ENGINEERING/INDUSTRIAL TECHNOLOGY

TRENDS

- ENGINEERING/INDUSTRIAL TECHNOLOGY PROGRAMS SHOWED A 49.6 PERCENT INCREASE IN FALL QUARTER ENROLLMENT, GROWING FROM 6725 IN 1977 TO 10059 IN 1981. OVER THE FIVE YEAR PERIOD, INCREASES IN FALL QUARTER ENROLLMENTS WERE STRONG IN ELECTRICAL/ELECTRONICS TECHNOLOGY WITH FALL 1981 HEADCOUNT AT 3243--UP 51.9 PERCENT; MECHANICAL TECHNOLOGY AT 2010--UP 21.9 PERCENT; MINING AND PETROLEUM TECHNOLOGY AT 1604--UP 180.9 PERCENT; VEHICLE AND MOBILE EQUIPMENT TECHNOLOGY AT 1006--UP 18.2 PERCENT; AND ARCHITECTURAL AND CONSTRUCTION TECHNOLOGY AT 744--UP 56.6 PERCENT.

- FALL QUARTER HEADCOUNT DATA SHOW THAT FULL-TIME ENROLLMENT STOOD AT 49.6 PERCENT IN 1977 AND AT 41.9 PERCENT IN 1981. MINORITY ENROLLMENT DECLINED SLIGHTLY FROM 18.5 PERCENT TO 16.4. FEMALE ENROLLMENT INCREASED FROM 6.4 TO 8.7 PERCENT.

- FALL QUARTER FTES INCREASED FROM 4898.7 IN 1977 TO 6361.5 IN 1981--A GROWTH OF 27.9 PERCENT DURING THE 5-YEAR PERIOD. AVERAGE FALL QUARTER FTES WAS REPORTED AT 5395.

- FROM 1977 TO 1981, SOME 6805 GRADUATES RECEIVED AWARDS FOR COMPLETING ENGINEERING/INDUSTRIAL TECHNOLOGY COURSEWORK. THE AVERAGE NUMBER OF GRADUATES PER YEAR FOR THE CLUSTER WAS 1361.

TABLE V

ENROLLMENTS: PRODUCTIVITY AND PROFILES

CLUSTER: ENGINEERING/INDUSTRIAL TECHNOLOGY

5-YR TOTALS AND AVERAGES: HEADCOUNT, FTES, AND GRADUATES

PROGRAM AREAS	FALL HEADCOUNT* 5-YR. TOTAL	FALL HEADCOUNT* AVERAGE PER YR.	FALL FTES* 5-YR. TOTAL	FALL FTES* AVERAGE PER YR.	GRADUATES* 5-YR. TOTAL	GRADUATES* AVERAGE PER YR.
ARCHITECTURAL & CONSTRUCTION	2990	598.0	1993.9	398.8	435	87.0
CIVIL	1009	201.8	687.3	137.5	242	48.4
ELECTRICAL/ELECTRONICS	12733	2546.6	9434.8	1887.0	2311	462.2
ENVIRONMENTAL CONTROL	2881	576.2	1897.1	379.4	572	114.4
GENERAL ENGINEERING	280	56.0	209.9	42.0	17	3.4
INDUSTRIAL PRODUCTION	1426	285.2	711.6	142.3	246	49.2
MECHANICAL	8605	1721.0	6150.4	1230.1	1663	332.6
MINING & PETROLEUM	4882	976.4	2131.1	426.2	306	61.2
NUCLEAR	42	8.4	29.1	5.8	13	2.6
QUALITY CONTROL & SAFETY	330	66.0	187.0	37.4	58	11.6
VEHICLE & MOBILE EQUIPMENT	4695	939.0	3543.1	708.6	942	188.4
CLUSTER TOTALS	39873	7974.6	26975.4	5395.1	6805	1361.0

FALL QUARTER HEADCOUNT PROFILE FOR CLUSTER

PROFILE ITEMS	FALL 77 NUMBER	FALL 77 PERCENT	FALL 81 NUMBER	FALL 81 PERCENT
TOTAL HEADCOUNT	6725	100.0	10059	100.0
FULL-TIME	3335	49.6	4218	41.9
MINORITY	1243	18.5	1654	16.4
FEMALE	432	6.4	876	8.7
MEDIAN AGE	29	-	26	-

*INCLUDES DATA FROM PROGRAMS, DIPLOMA, AND CERTIFICATE ENROLLMENTS AND AWARDS.

TABLE VI

ENROLLMENTS: PRODUCTIVITY AND PROFILES (CONTINUED)

CLUSTER: ENGINEERING/INDUSTRIAL TECHNOLOGY

5-YEAR TRENDS: NUMBER AND PERCENT DIFFERENCE

FALL HEADCOUNT

PROGRAM AREAS	1977 NUMBER	1981 NUMBER	DIFFERENCE FALL '77 TO FALL '81 N	DIFFERENCE FALL '77 TO FALL '81 %
ARCHITECTURAL & CONSTRUCTION TECHNOLOGY	475	744	269	56.6
CIVIL TECHNOLOGY	205	173	-32	-15.7
ELECTRICAL/ELECTRONICS TECHNOLOGY	2149	3243	1094	50.9
ENVIRONMENTAL CONTROL TECHNOLOGY	533	685	152	28.5
GENERAL ENGINEERING TECHNOLOGY	0	99	99	-
INDUSTRIAL PRODUCTION AND TECHNOLOGY	196	426	230	117.3
MECHANICAL TECHNOLOGY	1649	2010	361	21.9
MINING AND PETROLEUM TECHNOLOGY	571	1604	1033	180.9
NUCLEAR TECHNOLOGY	24	1	-23	-95.8
QUALITY CONTROL AND SAFETY TECHNOLOGY	72	68	-4	-5.6
VEHICLE & MOBILE EQUIPMENT TECHNOLOGY	851	1006	155	18.2
CLUSTER TOTALS	6725	10059	3334	49.6

FALL FTES

PROGRAM AREAS	1977 NUMBER	1981 NUMBER	DIFFERENCE FALL '77 TO FALL '81 N	DIFFERENCE FALL '77 TO FALL '81 %
ARCHITECTURAL & CONSTRUCTION TECHNOLOGY	321.7	488.1	166.4	51.7
CIVIL TECHNOLOGY	118.1	107.9	-10.2	-8.6
ELECTRICAL/ELECTRONICS TECHNOLOGY	1645.6	2381.1	735.5	44.7
ENVIRONMENTAL CONTROL TECHNOLOGY	370.9	433.9	63.0	17.0
GENERAL ENGINEERING TECHNOLOGY	0	70.8	70.8	-
INDUSTRIAL PRODUCTION AND TECHNOLOGY	100.1	211.3	111.2	111.1
MECHANICAL TECHNOLOGY	1217.4	1407.7	190.3	15.6
MINING AND PETROLEUM TECHNOLOGY	385.0	488.1	103.1	26.8

TABLE VI

ENROLLMENTS: PRODUCTIVITY AND PROFILES (CONTINUED) CLUSTER: ENGINEERING/INDUSTRIAL TECHNOLOGY

5-YEAR TRENDS: NUMBER AND PERCENT DIFFERENCE

FALL FTES (CONT.)

PROGRAM AREAS	1977 NUMBER	1981 NUMBER	DIFFERENCE FALL '77 TO FALL '81 N	DIFFERENCE FALL '77 TO FALL '81 %
NUCLEAR TECHNOLOGY	16.3	.3	-16.0	-98.2
QUALITY CONTROL AND SAFETY TECHNOLOGY	45.0	37.7	-7.3	-16.2
VEHICLE & MOBILE EQUIPMENT TECHNOLOGY	668.7	726.6	57.9	8.7
CLUSTER TOTALS	4898.7	6361.5	1364.7	27.9

GRADUATES (ANNUAL)

PROGRAM AREAS	1977 NUMBER	1981 NUMBER	DIFFERENCE FALL '77 TO FALL '81 N	DIFFERENCE FALL '77 TO FALL '81 %
ARCHITECTURAL & CONSTRUCTION TECHNOLOGY	72	135	63	87.6
CIVIL TECHNOLOGY	46	58	12	26.1
ELECTRICAL/ELECTRONICS TECHNOLOGY	463	508	45	9.7
ENVIRONMENTAL CONTROL TECHNOLOGY	97	127	30	30.9
GENERAL ENGINEERING TECHNOLOGY	-	11	11	-
INDUSTRIAL PRODUCTION AND TECHNOLOGY	24	60	36	150.0
MECHANICAL TECHNOLOGY	316	370	54	17.1
MINING AND PETROLEUM TECHNOLOGY	58	69	11	19.0
NUCLEAR TECHNOLOGY	1	1	0	0
QUALITY CONTROL AND SAFETY TECHNOLOGY	8	11	3	37.5
VEHICLE & MOBILE EQUIPMENT TECHNOLOGY	207	191	-16	-7.7
CLUSTER TOTALS	1292	1541	249	19.3

TABLE VII

PROGRAM COSTS AND STUDENTS RECEIVING FINANCIAL AID

CLUSTER: ENGINEERING/INDUSTRIAL TECHNOLOGY

PROGRAM/MAJOR COSTS PER CREDIT HOUR (1979-80)

PROGRAM (NCES)		NUMBER OF COLLEGES*	MINIMUM	MAXIMUM	MEDIAN
AIR CONDITIONING AND REFRIGERATION	(15.0599-15.1)**	11	$21.46	$69.47	$28.48
ARCHITECTURE	(15.0101-12.1)	5	21.16	31.00	27.54
AUTOMOTIVE	(47.0699-22.1)	16	22.70	48.49	27.51
BROADCAST ENGINEERING	(15.0399-14.1)	1	28.34	28.34	28.34
CIVIL	(15.0299-13.1)	6	23.53	41.31	28.89
CONSTRUCTION	(15.0101-12.2)	10	26.44	62.35	31.57
DRAFTING AND DESIGN	(15.0899-18.1)	19	21.73	40.02	28.13
ELECTRICAL/ELECTRONICS	(15.0399-14.2)	23	21.55	54.79	27.84
ENVIRONMENTAL SCIENCE	(15.0599-15.3)	2	25.97	41.07	33.52
ENVIRONMENTAL/SCIENCE	(15.0599-15.4)	1	33.92	33.92	33.92
GENERAL ENGINEERING	(15.9999-16.1)	2	24.60	28.77	26.69
INDUSTRIAL PRODUCTION TECHNOLOGY	(15.0699-17.2)	6	17.95	32.66	21.47
INSTRUMENTATION	(15.0399-14.3)	1	28.89	28.89	28.89
MACHINE	(15.0899-18.2)	11	21.69	41.43	29.73
MARINE SCIENCE	(15.0899-18.3)	2	42.99	64.92	53.96
MECHANICAL DESIGN	(15.0899-18.4)	2	27.22	40.99	34.11
MECHANICAL TECHNOLOGY	(15.0899-18.4)	6	24.39	50.29	30.88
MINING	(15.0901-19.1)	3	13.97	21.81	21.59
NUCLEAR	(41.0299-20.1)	1	27.02	27.02	27.02
OCCUPATIONAL SAFETY AND HEALTH	(15.0799-21.1)	2	24.74	25.57	25.16
URBAN PLANNING	(15.0299-13.2)	1	24.59	24.59	24.59

*NUMBER OF COLLEGES OFFERING PROGRAM IN THE 1979-80 YEAR.

**VCCS EDUCATIONAL PROGRAM SUBCLUSTER GROUPS AND CODES

TABLE VII

PROGRAM COSTS AND STUDENTS RECEIVING FINANCIAL AID (CONTINUED)

CLUSTER: ENGINEERING/INDUSTRIAL TECHNOLOGY

FINANCIAL AID STUDENTS

PROGRAM AREAS		FALL '79 FINAN. AID NUMBER	FALL '79 TOTAL IN PROGRAM	FALL '79 PERCENT FINAN. AID	FALL '80 FINAN. AID NUMBER	FALL '80 TOTAL IN PROGRAM	FALL '80 PERCENT FINAN. AID
ARCHITECTURAL AND CONSTRUCTION	(15.0101)**	103	614	16.8	138	675	20.4
CIVIL	(15.0299)	21	218	9.6	29	200	14.5
ELECTRICAL/ELECTRONICS	(15.0399)	379	2491	15.2	525	2657	19.8
ENVIRONMENTAL CONTROL	(15.0599)	49	522	9.4	86	573	15.0
GENERAL ENGINEERING	(15.9999)	11	70	15.7	13	63	20.6
INDUSTRIAL PRODUCTION	(15.0699)	11	223	4.9	20	372	5.4
MECHANICAL	(15.0899)	268	1618	16.6	378	1655	22.8
MINING AND PETROLEUM	(15.0901)	68	814	8.4	69	1303	5.3
NUCLEAR	(41.0299)	0	4	0.0	0	2	0.0
QUALITY CONTROL AND SAFETY	(15.0799)	6	80	7.5	10	39	25.6
VEHICLE AND MOBIL EQUIPMENT	(47.0699)	128	901	14.2	144	1023	14.1
TOTAL		1044	7555	13.8	1412	8562	16.5

**VCCS EDUCATIONAL PROGRAM SUBCLUSTER GROUPS AND CODES

TABLE VIII

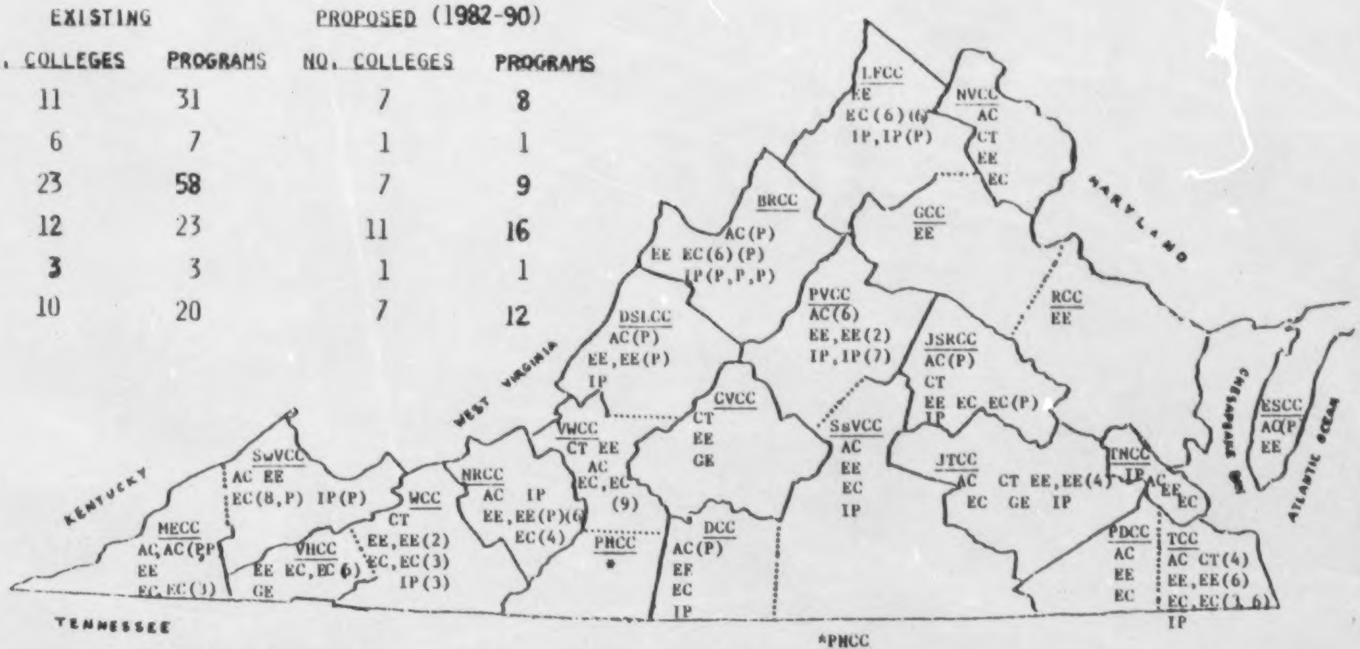
MAP - VCCS EXISTING AND PROPOSED EDUCATIONAL PROGRAMS

CLUSTER: ENGINEERING AND INDUSTRIAL TECHNOLOGY

(MAP 1 OF 2)

SUMMARY: (INCLUDES DEGREE, DIPLOMA AND CERTIFICATE PROGRAMS)

PROGRAM AREAS	EXISTING		PROPOSED (1982-90)	
	NO. COLLEGES	PROGRAMS	NO. COLLEGES	PROGRAMS
AC	11	31	7	8
CT	6	7	1	1
EE	23	58	7	9
EC	12	23	11	16
GE	3	3	1	1
IP	10	20	7	12


LFCC
EE
EC(6)(6)
IP, IP(P)
NVCC
AC
CT
EE
EC
MARYLAND
BRCC
AC(P)
EE EC(6)(P)
IP(P,P,P)
GCC
EE
RCC
EE
DSLCC
AC(P)
EE, EE(P)
IP
PVCC
AC(6)
EE, EE(2)
IP, IP(7)
JSRCC
AC(P)
CT
EE EC EC(P)
IP
WEST VIRGINIA
CVCC
CT
EE
GE
SsVCC
AC
EE
EC
IP
CHESAPEAKE BAY
ESCC
AC(P)
EE
ATLANTIC OCEAN
VWCC
CT EE
AC
EC, EC
(9)
JTCC
AC CT EE, EE(4)
EC GE IP
TNCC
IP
AC
EE
EC
KENTUCKY
SwVCC
AC EE
EC(8,P) IP(P)
WCC
CT
EE, EE(2)
EC, EC(3)
IP(3)
NRCC
AC IP
EE, EE(P)(6)
EC(4)
PHCC
*
DCC
AC(P)
EF
EC
IP
PDCC
AC
EE
EC
TCC
AC CT(4)
EE, EE(6)
EC, EC(3,6)
IP
MECC
AC, AC(P,P)
EE
EC, EC(3)
VHCC
EE EC, EC(6)
GE
TENNESSEE

*PHCC
AC
EE, EE(4,6)
EC(6,P)
GE(4)
IP(8,7,8,P)

PROGRAM AREA KEY:

AC - ARCHITECTURAL AND CONSTRUCTION TECHNOLOGY
CT - CIVIL TECHNOLOGY
EE - ELECTRICAL/ELECTRONICS TECHNOLOGY
EC - ENVIRONMENTAL CONTROL TECHNOLOGY
GE - GENERAL ENGINEERING TECHNOLOGY
IP - INDUSTRIAL PRODUCTION AND SAFETY TECHNOLOGY
(P) - PROPOSED DIPLOMA OR CERTIFICATE
(No.) - PROPOSED A.A.S. YEAR OF INITIATION

EXAMPLE: (4) = 1984

TABLE VIII

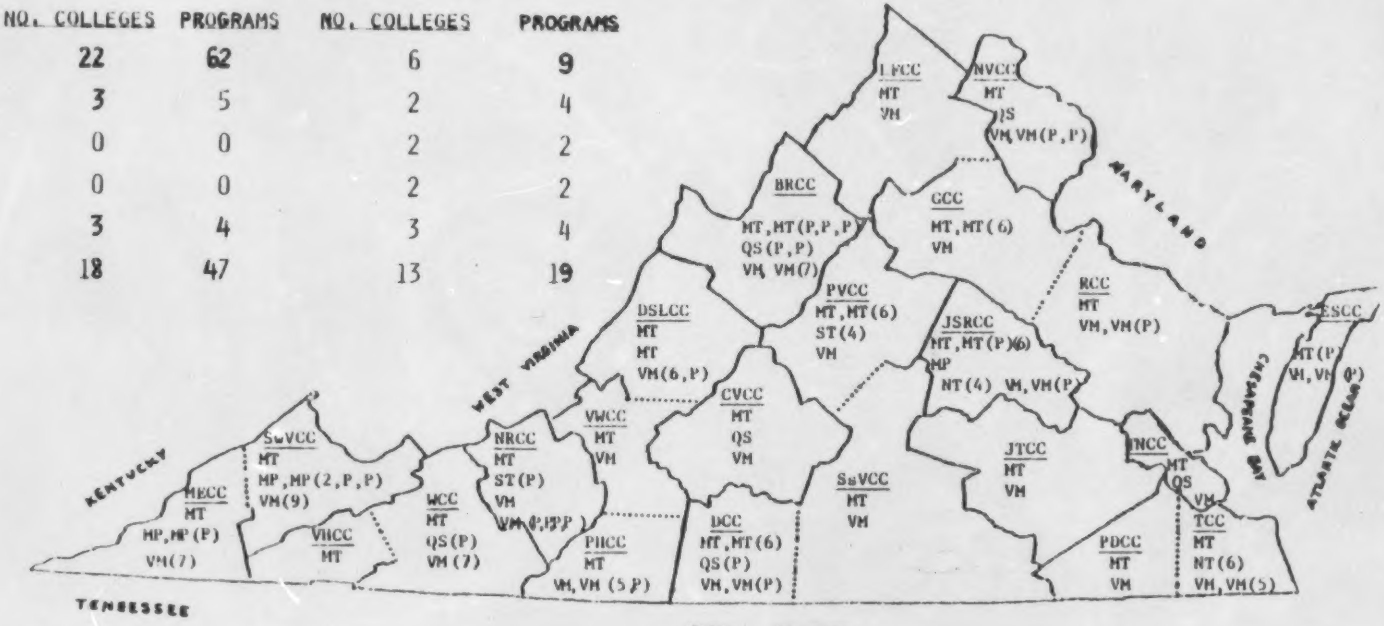
MAP - VCCS EXISTING AND PROPOSED EDUCATIONAL PROGRAMS

CLUSTER: ENGINEERING AND INDUSTRIAL TECHNOLOGY

(MAP 2 OF 2)

SUMMARY: (INCLUDES DEGREE, DIPLOMA AND CERTIFICATE PROGRAMS)

PROGRAM AREAS	EXISTING		PROPOSED (1982-90)	
	NO. COLLEGES	PROGRAMS	NO. COLLEGES	PROGRAMS
MT	22	62	6	9
MP	3	5	2	4
NT	0	0	2	2
ST	0	0	2	2
QS	3	4	3	4
VM	18	47	13	19


LFCC
MT
VM
NVCC
MT
QS
VM, VM(P,P)
MARYLAND
BRCC
MT, MT(P,P,P)
QS(P,P)
VM, VM(7)
GCC
MT, MT(6)
VM
RCC
MT
VM, VM(P)
ESCC
MT(P)
VM, VM(P)
PVCC
MT, MT(6)
ST(4)
VM
DSLCC
MT
MT
VM(6,P)
JSRCC
MT, MT(P)(6)
MP
NT(4) VM, VM(P)
WEST VIRGINIA
CHESAPEAKE BAY
ATLANTIC OCEAN
CVCC
MT
QS
VM
VWCC
MT
VM
SwVCC
MT
MP, MP(2,P,P)
VM(9)
NRCC
MT
ST(P)
VM
VM(P,P,P)
JTCC
MT
VM
NCC
MT
QS
VM
KENTUCKY
MECC
MT
MP, MP(P)
VM(7)
WCC
MT
QS(P)
VM(7)
SsVCC
MT
VM
VHCC
MT
PHCC
MT
VM, VM(5,P)
DCC
MT, MT(6)
QS(P)
VM, VM(P)
PDCC
MT
VM
TCC
MT
NT(6)
VM, VM(5)
TENNESSEE
NORTH CAROLINA

PROGRAM AREA KEY:

MT	-	MECHANICAL TECHNOLOGY
MP	-	MINING AND PETROLEUM TECHNOLOGY
NT	-	NUCLEAR TECHNOLOGY
ST	-	SCIENCE TECHNOLOGIES
QS	-	QUALITY CONTROL AND SAFETY TECHNOLOGY
VM	-	VEHICLE AND MOBILE EQUIPMENT TECHNOLOGY
(P)	-	PROPOSED DIPLOMA OR CERTIFICATE
(NO.)	-	PROPOSED A.A.S. YEAR OF INITIATION

EXAMPLE: (4) = 1984

CLUSTER: HEALTH TECHNOLOGY

DEMAND FOR PROGRAMS: MANPOWER/ECONOMIC

Occupations supplied through the VCCS Cluster: Health Technology and aimed at serving the health needs of people display for the nation and Virginia strong employment growth trends. Though the 4.4 million employed in 1978 in the health occupation fields represented a sizable segment of the U.S. work force, it is forecast that by 1990, the number of persons employed in health occupations will have grown by 40-50 percent. The *Monthly Labor Review*, August 1981, has national employment projections which place four health occupations among the top twenty expected to show the highest percent-of-growth figures from 1978 to 1990. The four fastest growing health occupations were identified as follows:

Dental Hygienist	57.9%
Physical Therapists	57.6%
Dental Assistants	57.5%
Nurses Aides and Orderlies	54.6%

The *Monthly Labor Review* also had projections that showed three health occupations as having been placed among the top twenty for growth in thousands of jobs for the period 1978-1990. Growth for the three occupations was reported as follows:

Nurses Aides and Orderlies	594,000
Professional Nurses	519,800
Licensed Practical Nurses	215,600

Occupational demand data for Virginia show three health fields projected to have above average demand (150 or more average annual job openings) for health personnel. These are as follows:

- Nurses and Nursing Assistant Workers, including Nursing Home Services
- Clinical Laboratory Technicians
- Dental Hygienists and Assistants

National and Virginia manpower data substantiate the continued and varied need for VCCS health education/training programs.

The TABLES for the Cluster: Health Technology in this section of the *Component* has (1) health occupation trends for the nation, (2) health occupation manpower demand and supply data for Virginia, and (3) a summary of statewide employment opportunities referencing average annual job openings and projected 1982-1985 job totals by VCCS health degree programs. Also, the interests of Virginia's high school seniors in health careers/occupations are shown with accompanying data. In regard to supply-side occupational program information, the TABLES referenced a list of Virginia institutions which offer programs/coursework related to one or more of the community college awards for the Cluster: Health Technology. The reference work for this list is the *Directory of Virginia's Postsecondary Education and Training Opportunities* (SCHEV, 1979-80).

EXISTING AND PROPOSED PROGRAMS

The Virginia Community College System serves the Commonwealth's health education needs by offering, through existing programs and/or majors, some 49 Associate in Applied Science (AAS) degrees and 20 health-related diploma and certificate (D/C) awards. In addition, some 25 AAS and 12 diploma and certificate programs are proposed for implementation at the colleges during the years 1982-1990. These health offerings are tied to a curriculum structure composed of 17 National Center of Education Statistics (NCES) health programs. The community colleges' existing 1981-1982 AAS, diploma and certificate health offerings as well as the proposed programs and majors for 1982-1990 are grouped, below, by the 17 NCES health programs.

	Existing Programs*		Proposed Programs*	
Programs (NCES)	AAS	D/C	AAS	D/C
Dental Hygiene	2	4	0	0
Dental Laboratory	2	0	1	0
Dietetics	1	2	1	0
Emergency Medical Services	1	1	2	2
Funeral Services	1	0	0	0
Medical Assisting	1	0	0	0
Medical Laboratory	5	1	4	0
Medical Records	3	0	0	1
Mental Health	4	1	1	0
Nursing	15	4	2	7
Opticianry	2	0	1	0
Physical Therapy	1	0	4	0
Radiography	8	0	2	0
Respiratory Therapy	3	7	4	2
Occupational Therapy Assistant	0	0	1	0
Nuclear Medicine	0	0	1	0
Radiation Oncology	0	0	1	0
Cluster Totals	49	20	25	12

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*Programs (NCES) include one or more majors and/or non-degree programs.

The Virginia regional and college service area placement of existing and proposed Health Technology programs is shown in the TABLES in this section. Refer to the MAP. Refer also to Appendix C: 1981-82 VCCS Curricular Matrix of Existing Programs and Proposed Programs for 1982-90. This matrix presents, by college, the AAS, diploma, and certificate health offerings for both existing and proposed programs.

The *VCCS Master Plan* includes for the 1982-84 biennium the following programs which have already attained State Board for Community Colleges approval.

1982-83

College: Tidewater
Degree Program: Physical Therapy
Major: Physical Therapy

1983-84

College: Piedmont Virginia
Degree Program: Radiography
Major: Radiography

Using prioritization categories of Recommended for Approval, Recommended for Approval with Conditions, and Not Recommended, the State Board for Community Colleges approved four health technology programs proposed by the colleges for 1984-86. Board actions are as follows:

Recommended for Approval

College: Blue Ridge
Degree Program: Nursing -- (1984)
Major: Nursing

College: Piedmont Virginia
Degree Program: Medical Laboratory -- (1984)
Major: Medical Laboratory

Recommended with Conditions

College: Southside Virginia
Degree Program: Nursing -- (1984)
Major: Nursing

State Board recommendations on programs for the 1986-88 and 1988-90 bienniums, are not included (as proposed by the colleges' *Six-Year Curricular Plans*) in this *Master Plan*, since these proposed programs will be reviewed using new 1980 U.S. Census data and new Virginia occupational trend information. Programs proposed for 1986-90 are shown in Appendix C.

ENROLLMENTS: PRODUCTIVITY AND PROFILES

As of fall, 1981, nineteen of the 23 community colleges reported enrollments in Health Technology programs. Refer to the accompanying table concerning VCCS/college enrollments in Health technology programs for the period 1977-1981. College enrollment and productivity patterns for Health Technology programs are as follows:

TABLE: VCCS ENROLLMENTS CLUSTER: HEALTH TECHNOLOGY

ENROLLMENTS AND GRADUATES: TOTALS AND AVERAGES BY COLLEGE, 1977 - 1981

COLLEGE	FALL HEADCOUNT 5-YR. TOTAL	FALL HEADCOUNT AVERAGE PER YR.	FALL FTES 5-YR. TOTAL	FALL FTES AVERAGE PER YR.	GRADUATES 5-YR. TOTAL	GRADUATES AVERAGE PER YR.
BLUE RIDGE	223	44.6	203.7	40.7	86	17.2
CENTRAL VIRGINIA	479	95.8	435.9	87.2	225	45.0
DABNEY S. LANCASTER	378	75.6	289.7	57.9	106	21.2
DANVILLE	278	55.6	288.4	57.7	203	40.6
EASTERN SHORE	-	-	-	-	-	-
GERMANNA	235	47.0	202.4	40.5	96	19.2
J. SARGEANT REYNOLDS	1598	319.6	1222.3	244.5	591	118.2
JOHN TYLER	1218	243.6	951.1	190.2	427	85.4
LORD FAIRFAX	-	-	-	-	-	-
MOUNTAIN EMPIRE	284	56.8	245.4	49.1	118	23.6
NEW RIVER	168	33.6	178.4	35.7	86	17.2
NORTHERN VIRGINIA	2571	514.2	1662.0	332.4	1215	243.0
PATRICK HENRY	239	47.8	160.2	32.0	72	14.4
PAUL D. CAMP	-	-	-	-	-	-
PIEDMONT VIRGINIA	594	118.8	416.7	83.3	221	44.2
RAPPAHANNOCK	393	78.6	295.7	59.1	26	5.2
SOUTHSIDE VIRGINIA	-	-	-	-	-	-
SOUTHWEST VIRGINIA	387	77.4	322.9	64.6	158	31.6
THOMAS NELSON	452	90.4	283.4	56.7	202	40.4
TIDEWATER	836	167.2	590.5	118.1	259	51.8
VIRGINIA HIGHLANDS	287	57.4	246.0	49.2	109	21.8
VIRGINIA WESTERN	1230	246.0	1001.5	200.3	459	91.8
WYTHEVILLE	1100	220.0	905.7	181.2	514	102.8
VCCS*	12950	2590.0	9901.9	1980.4	5173	1034.6

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*ROUNDING MAY CAUSE TOTALS TO BE SLIGHTLY DIFFERENT THAN THE SUM OF INDIVIDUAL ENTRIES.

***Profile characteristics for** 1977 and 1981* for the Cluster: Health Technology are as follows. Refer to the set of TABLES which follow the description of the Cluster.

- Fall headcount and AAS totals. The 2344 students enrolled in fall, 1977 Health Technology programs represented 7.5 percent of all students enrolled in Associate in Applied Science (AAS) programs. The percentage of AAS total for the 2920 students enrolled as of fall, 1981, was 7.8.

- Full-time students. Full-time enrollments remain strong, being 57.7 percent in 1977 and 53.7 percent in 1981 of total cluster enrollments.

- Females and minorities. Female enrollments are predominant in Health Technology programs. Females constituted 86 percent of enrollments in 1977 and 87.5 percent in 1981. Minority enrollments in the cluster have remained consistent at 15.2 percent in 1977 and 15.7 percent in 1981.

- Age. The median age of students in health technologies was 28 in 1977 and 26 in 1981.

Enrollment distribution and productivity. The strength and viability of Health Technology programs over the past five years indicate the need for colleges to expand current Health Technology programs and/or implement new programs to serve the Virginia communities.

- Distribution. The offering of 69 health technology programs by 19 colleges has afforded Virginians in most communities the opportunity to enroll in health technology programs leading to AAS degrees, diplomas, and certificates. During the five years -- 1977 to 1981, some 12950 students enrolled during the five fall quarters in these programs. During the same five years, 5173 graduates attained awards. Refer to the accompanying TABLE, Enrollments in Health Technologies: Totals and Averages by College.

- Productivity. Measures of program productivity for the Cluster: Health Technology, are obtained from fall headcount, fall FTES, and graduate figures.

  - Average headcount. The five-year fall headcount total figures yield an average of 2590 students enrolled each fall, 1977 to 1981.

  - Average FTES. Full-time equivalent student figures for the five fall quarters were 9901.9. This total yielded an average fall quarter FTES of 1980.4 for each year 1977 to 1981.

  - Average number of graduates. For each year, 1977 to 1981, the average number of graduates from health technology programs was 1034.6.

    - Shifts in program enrollments. Predictably, enrollments in health technologies have grown and shifted in the direction of Virginia's communities greatest need -- nursing graduates. The colleges' health programs recorded a fall headcount enrollment increase of 24.6 percent, growing from 2344 in 1977 to 2920 in 1981. Fall headcount growth in nursing accounted for 72 percent of the enrollment increase in the cluster. Nursing enrollments grew from 1313 in 1977 to 1729 in 1981. Growth and/or stability occurred in all the colleges' health programs except dental laboratory where fall headcount declined from 61 in 1977 to 50 in 1981 and mental health was down from 214 to 150.

Program costs and student aid. Resource allocation and students' access to financial aid are important VCCS planning considerations.

- Cost per credit hour. For the six clusters of occupational-technical programs that lead to the Associate in Applied Science Degree, the average cost per credit hour is $25.26. The average cost per credit hour for those programs in the Cluster: Health Technology is $42.98. The nursing program is a high cost one with an average credit hour cost of $45.65.

- Student financial aid. In the fall, 1980, some 945 students out of 2853 enrolled in Health Technology programs received financial aid. The figure for nursing was 36.5 percent; for medical laboratory, 43 percent; and for funeral services, 60.9 percent.

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DEMAND FOR PROGRAMS: MANPOWER/ECONOMIC

CLUSTER: HEALTH TECHNOLOGY

TRENDS

- THE HEALTH FIELDS ARE EXPECTED TO GROW MUCH FASTER THAN AVERAGE FOR ALL OCCUPATIONS THROUGH THE 1980's.
- INCREASED EMPHASIS ON ENROLLMENT AND TRAINING PROGRAMS IN THE HEALTH FIELDS MAY CHANGE EMPLOYMENT OPPORTUNITIES MORE RAPIDLY THAN IN SOME OTHER FIELDS.
- THE FOLLOWING 1978 DATA INDICATES SPECIFIC LEVELS OF EMPLOYMENT FOR SELECTED HEALTH FIELDS NATIONWIDE:

DENTAL ASSISTANT/DENTAL HYGIENIST - 185,000
PHYSICAL THERAPY ASSISTANTS - 12,500
MEDICAL LABORATORY WORKERS - 210,000
OPTICIANS - 17,500
RADIOLOGIC TECHNOLOGISTS - 100,000

OCCUPATIONAL/TECHNICAL ASSISTANTS - 10,000
RESPIRATORY THERAPY TECHNICIANS & ASSISTANTS - 50,000
EMERGENCY MEDICAL TECHNICIANS (PAID) - 115,000
MEDICAL RECORDS TECHNICIANS - 15,000
REGISTERED NURSES & LICENSED PRACTICAL NURSES - 1,568,000

OCCUPATIONAL MANPOWER DEMAND AND SUPPLY (STATEWIDE)

PROGRAMS	OIS OCCUPATIONS	1976-1982 AVG. ANNUAL OPENINGS STATE OF VA.	1979-80 SUPPLY VCCS	ALL SOURCES	COMMENTS
DENTAL HYGIENE DENTAL HYGIENE	DENTAL ASSISTANTS DENTAL HYGIENISTS	230	62	128	
DENTAL LABORATORY DENTAL LABORATORY	DENTAL LAB. TECHNICIANS	40	22	27	
DIETETICS DIETETICS	DIETICIANS	50	12	12	
EMERGENCY MEDICAL SERVICES EMERGENCY MEDICAL SER.	EMERGENCY MED. TECHNICIANS	20	3	13	
FUNERAL SERVICES FUNERAL SERVICES	EMBALMERS FUNERAL ATTENDANTS	40	18	18	
MEDICAL ASSISTING MEDICAL ASSISTING	HEALTH RECORDS TECHNOLOGISTS SURGICAL TECHNICIANS	80	35	251	160 OF 251 SUPPLY ASSOCIATED WITH HEALTH/MEDICAL RECORDS.
MEDICAL LABORATORY MEDICAL LABORATORY	CLINICAL LAB. TECHNICIANS	230	33	37	
MEDICAL RECORDS MEDICAL RECORDS	HEALTH RECORDS TECHNOLOGISTS	50	29	160	SUPPLY FROM ALL OTHER CLERICAL/SECRETARIAL PROGRAMS ARE EXCLUDED.
MENTAL HEALTH MENTAL HEALTH	NURSE AIDES HEALTH ASSISTANTS	1610	132	801	LIMITED DEMAND DATA FOR MENTAL HEALTH.

TABLES I & II
DEMAND FOR PROGRAMS: MANPOWER/ECONOMIC (CONT.)

CLUSTER: HEALTH TECHNOLOGY

OCCUPATIONAL MANPOWER DEMAND AND SUPPLY (STATEWIDE)

PROGRAMS	OIS OCCUPATIONS	1976-1982 AVG. ANNUAL OPENINGS STATE OF VA.	1979-80 SUPPLY VCCS	1979-80 SUPPLY ALL SOURCES	COMMENTS
NURSING NURSING	NURSES LICENSED PRACTICAL NURSES NURSE AIDES	3670	554	1425	
OPTICIANRY OPTICIANRY	OPTICIANS OPTICAL GOODS WORKERS	70	19	25	
PHYSICAL THERAPY PHYSICAL THERAPY	PHYSICAL THERAPISTS	20	18	18	NEED TO CONSIDER COMPETITION FROM BACHELOR'S PROGRAMS.
RADIOLOGY RADIOLOGY	RADIOLOGIC TECHNOLOGISTS	120	35	35	
RESPIRATORY THERAPY RESPIRATORY THERAPY	RESPIRATORY THERAPISTS	20	83	85	
MISCELLANEOUS OCCUPATIONAL THERAPY ASSISTANT	OCCUPATIONAL THERAPISTS	20	0	0	44 SUPPLIED FROM BACHELOR OR HIGHER PROGRAM
CYTOTECHNOLOGY		-	-	-	NOT AVAILABLE
NUCLEAR MEDICINE		-	-	-	NOT AVAILABLE
RADIATION ONCOLOGY		-	-	-	NOT AVAILABLE

TABLE III

DEMAND FOR PROGRAMS: MANPOWER/ECONOMIC (CONTINUED) CLUSTER: HEALTH TECHNOLOGY

VIRGINIA HIGH SCHOOL SENIORS' INTERESTS IN FURTHER EDUCATION (DEPARTMENT OF EDUCATION SURVEY, 1980)

SURVEY INTEREST AREA	MALES	% OF MALE GRADUATES	FEMALE	% OF FEMALE GRADUATES
HEALTH PROFESSIONS	744	2.7	3787	12.3

STATEWIDE PROGRAM OFFERINGS BY VCCS PROGRAM CLUSTER

THE DIRECTORY OF VIRGINIA'S POSTSECONDARY EDUCATION AND TRAINING OPPORTUNITIES (SCHEV, 1979-80) PROVIDES LISTS OF VIRGINIA COLLEGES/UNIVERSITIES AND PROPRIETARY SCHOOLS WHICH OFFER PROGRAMS/COURSEWORK RELATED TO ONE OR MORE OF THE COMMUNITY COLLEGE AWARD AREAS: ASSOCIATE DEGREE, DIPLOMA, OR CERTIFICATE. FOR THE CLUSTER--HEALTH TECHNOLOGY, REFER TO THE DIRECTORY WHICH LISTS INSTITUTIONS BY HEGIS CATEGORIES AS FOLLOWS:

ASSOCIATE DEGREE

HEALTH ASSISTANT (5201)
DENTAL HYGIENE (5203)
DENTAL LABORATORY (5204)
MEDICAL, BIOLOGICAL LABORATORY (5205)
RADIOLOGIC (5207)
NURSING (5208)
OPTICAL, OPHTHALMIC, OPTOMETRIC (5212)
MEDICAL RECORD TECHNOLOGY (5213)
MEDICAL ASST./MEDICAL OFFICE ASST. (5214)
RESPIRATORY THERAPY (5215)
PSYCHIATRIC-MENTAL HEALTH AIDE (5216)
PHYSICAL THERAPY (5219)
EMERGENCY MEDICAL SERVICES (5221)
MORTUARY SCIENCE (5291)
DIETETICS (5299)

DIPLOMA/CERTIFICATE

HEALTH ASSISTANT (5201)
DENTAL ASSISTANT (5202)
DENTAL LABORATORY (5204)
MEDICAL, BIOLOGICAL LABORATORY (5205)
NURSING, PRACTICAL (5209)
MEDICAL ASST/MEDICAL OFFICE ASST. (5214)
RESPIRATORY THERAPY (5215)
PSYCHIATRIC-MENTAL HEALTH AIDE (5216)
DIETETICS (5299)

TABLE IV

DEMAND FOR PROGRAMS: MANPOWER/ECONOMIC (CONTINUED) CLUSTER: HEALTH TECHNOLOGY

SUMMARY: STATEWIDE EMPLOYMENT OPPORTUNITIES

PROGRAM AREAS	ACTUAL 1976 JOBS	PROJECTED 1982 JOBS	PROJECTED 1985 JOBS	AVERAGE ANNUAL JOB OPENINGS
DENTAL HYGIENE	3150	3850	4300	230
DENTAL LABORATORY	580	710	775	40
DIETETICS	540	650	775	50
EMERGENCY MEDICAL SERVICES	290	330	350	20
FUNERAL SERVICES	830	860	875	40
MEDICAL ASSISTING	1130	1390	1520	80
MEDICAL LABORATORY	3300	4040	4410	230
MEDICAL RECORDS	610	740	805	50
MENTAL HEALTH	20910	25540	28220	1610
NURSING	47350	57560	63030	3670
OPTICIANRY	920	1160	1280	70
PHYSICAL THERAPY	400	480	520	20
RADIOGRAPHY	1690	2080	2275	120
RESPIRATORY THERAPY	330	400	435	20
OCCUPATIONAL THERAPY ASSISTANT	390	480	425	20
NUCLEAR MEDICINE	*	*	*	*
RADIATION ONCOLOGY	*	*	*	*

* EMPLOYMENT OPPORTUNITIES DATA NOT AVAILABLE.

CONTINUED

TABLE V:

ENROLLMENTS: PRODUCTIVITY AND PROFILES (CONTINUED)

CLUSTER: HEALTH TECHNOLOGY

5-YR TOTALS AND AVERAGES: HEADCOUNT, FTES, AND GRADUATES

PROGRAM AREAS	FALL HEADCOUNT* 5-YR. TOTAL	FALL HEADCOUNT* AVERAGE PER YR.	FALL FTES* 5-YR. TOTAL	FALL FTES* AVERAGE PER YR.	GRADUATES* 5-YR. TOTAL	GRADUATES* AVERAGE PER YR.
DENTAL HYGIENE	645	129.0	570.60	114.1	434	86.8
DENTAL LABORATORY	254	50.8	197.60	39.5	125	25.0
DIETETICS	340	68.0	192.13	38.4	61	12.2
EMERGENCY MEDICAL SERVICES	180	36.0	114.53	22.9	29	5.8
FUNERAL SERVICES	221	44.2	201.73	40.4	121	24.2
MEDICAL ASSISTING	88	17.6	82.40	16.5	24	4.8
MEDICAL LABORATORY	493	98.6	458.53	91.7	236	47.2
MEDICAL RECORDS	279	55.8	227.47	45.5	139	27.8
MENTAL HEALTH	1022	204.4	840.87	168.2	382	76.4
NURSING	7517	1503.4	5439.27	1087.9	2856	571.2
OPTICIANRY	201	40.2	157.07	31.4	78	15.6
PHYSICAL THERAPY	247	49.4	178.80	35.8	85	17.0
RADIOLOGY	700	140.0	598.87	119.8	184	36.8
RESPIRATORY THERAPY	763	152.6	642.07	128.4	419	83.8
CLUSTER TOTALS	12950	2590.0	9901.93	1980.4	5173	1034.6

FALL QUARTER HEADCOUNT PROFILE DATA FOR CLUSTER

PROFILE ITEMS	FALL 77 NUMBER	FALL 77 PERCENT	FALL 81 NUMBER	FALL 81 PERCENT
TOTAL HEADCOUNT	2344	100.0	2920	100.0
FULL-TIME	1343	57.3	1569	53.7
MINORITY	356	15.2	459	15.7
FEMALE	2015	86.0	2555	87.5
MEDIAN AGE	28	-	26	-

*INCLUDES DATA FROM PROGRAMS, DIPLOMA, AND CERTIFICATE ENROLLMENTS AND AWARDS.

TABLE VI

ENROLLMENTS: PRODUCTIVITY AND PROFILES (CONTINUED) CLUSTER: HEALTH TECHNOLOGY

5-YEAR TRENDS: NUMBER AND PERCENT DIFFERENCE

FALL HEADCOUNT

PROGRAM AREAS	1977 NUMBER	1981 NUMBER	DIFFERENCE FALL '77 TO FALL '81 N	%
DENTAL HYGIENE	136	137	1	.7
DENTAL LABORATORY	61	50	-11	-18.0
DIETETICS	56	76	20	35.7
EMERGENCY MEDICAL SERVICES	14	52	38	271.4
FUNERAL SERVICES	45	43	-2	-4.4
MEDICAL ASSISTING	11	43	32	290.9
MEDICAL LABORATORY	97	115	18	18.6
MEDICAL RECORDS	58	84	26	44.8
MENTAL HEALTH	214	150	-64	-29.9
NURSING	1313	1729	416	31.7
OPTICIANRY	32	59	27	84.4
PHYSICAL THERAPY	34	44	10	29.4
RADIOLOGY	138	166	28	20.3
RESPIRATORY THERAPY	135	172	37	27.4
CLUSTER TOTALS	2344	2920	576	24.6

TABLE VII

ENROLLMENTS: PRODUCTIVITY AND PROFILES (CONTINUED) CLUSTER: HEALTH TECHNOLOGY

5-YEAR TRENDS: NUMBER AND PERCENT DIFFERENCE

FALL FTES

PROGRAM AREAS	1977 NUMBER	1981 NUMBER	DIFFERENCE FALL '77 TO FALL '81 N	%
DENTAL HYGIENE	122.7	115.7	-7.0	-5.7
DENTAL LABORATORY	49.6	38.1	-11.5	-23.2
DIETETICS	32.2	44.7	12.5	38.8
EMERGENCY MEDICAL SERVICES	9.5	33.7	24.2	254.7
FUNERAL SERVICES	47.9	34.7	-13.2	-27.6
MEDICAL ASSISTING	9.1	44.6	35.5	390.1
MEDICAL LABORATORY	95.6	97.9	2.3	2.4
MEDICAL RECORDS	49.6	62.6	13.0	26.2
MENTAL HEALTH	186.2	109.6	-76.6	-41.1
NURSING	971.5	1238.5	267.0	27.5
OPTICIANRY	29.7	37.9	8.2	27.6
PHYSICAL THERAPY	21.7	30.1	8.4	38.7
RADIOLOGY	112.6	141.7	29.1	25.8
RESPIRATORY THERAPY	119.2	144.8	25.6	21.5
CLUSTER TOTALS	1857.2*	2174.7*	317.5	17.1

*ROUNDING MAY CAUSE TOTALS TO BE SLIGHTLY DIFFERENT THAN INDIVIDUAL ENTRIES.

TABLE VIII

ENROLLMENTS: PRODUCTIVITY AND PROFILES (CONTINUED)

CLUSTER: HEALTH TECHNOLOGY

5-YEAR TRENDS: NUMBER AND PERCENT DIFFERENCE

GRADUATES (ANNUAL)

PROGRAM AREAS	1977 NUMBER	1981 NUMBER	DIFFERENCE FALL '77 TO FALL '81 N	%
DENTAL HYGIENE	78	109	31	39.7
DENTAL LABORATORY	30	18	-12	-40.0
DIETETICS	7	14	7	100.0
EMERGENCY MEDICAL SERVICES	8	7	-1	-12.5
FUNERAL SERVICES	27	19	-8	-29.6
MEDICAL ASSISTING	10	3	-7	-70.0
MEDICAL LABORATORY	51	53	2	3.9
MEDICAL RECORDS	26	25	-1	-3.8
MENTAL HEALTH	70	68	-2	-2.9
NURSING	554	584	30	5.4
OPTICIANRY	9	22	13	144.4
PHYSICAL THERAPY	16	18	2	12.5
RADIOLOGY	35	32	-3	-8.6
RESPIRATORY THERAPY	66	80	14	21.2
CLUSTER TOTALS	987	1052	65	6.6

TABLES IX & X

PROGRAM COSTS AND STUDENTS RECEIVING FINANCIAL AID

CLUSTER: HEALTH TECHNOLOGY

PROGRAM/MAJOR COSTS PER CREDIT HOUR (1979-80)

PROGRAM (NCES)		NUMBER OF COLLEGES*	MINIMUM	MAXIMUM	MEDIAN
DENTAL HYGINE	(17.0102-23.1)**	4	$30.17	$59.13	$42.47
DENTAL LABORATORY	(17.0103-24.1)	2	39.11	41.98	40.56
DIETETICS	(19.0503-25.1)	2	18.47	24.12	21.30
EMERGENCY MEDICAL SERVICES	(17.0206-26.1)	1	31.85	31.85	31.85
MEDICAL ASSISTING	(17.0503-28.1)	1	65.59	65.59	65.59
MEDICAL LABORATORY	(17.0309-29.1)	5	27.51	56.69	38.76
MEDICAL RECORDS	(17.0506-30.1)	3	38.44	40.43	38.49
MENTAL HEALTH	(17.0406-31.1)	4	19.46	24.97	22.26
MORTUARY SCIENCE	(12.0301-27.1)	1	24.41	24.41	22.41
NURSING	(18.1101-32.1)	17	33.89	64.16	45.65
OPTICIANRY	(17.0705-33.1)	2	20.56	41.36	30.96
PHYSICAL THERAPY	(17.0813-34.1)	1	38.05	38.05	38.05
RADIOLOGY	(17.0209-35.1)	6	12.22	70.31	56.18
RESPIRATORY THERAPY	(17.0210-36.1)	8	33.82	91.58	56.87

*NUMBER OF COLLEGES OFFERING PROGRAM IN THE 1979-80 YEAR

**VCCS EDUCATIONAL PROGRAM SUBCLUSTER GROUPS AND CODES

TABLES IX & X

PROGRAM COSTS AND STUDENTS RECEIVING FINANCIAL AID (CONTINUED)

CLUSTER: HEALTH TECHNOLOGY

FINANCIAL AID STUDENTS

PROGRAM AREAS		FALL '79 FINAN. AID NUMBER	FALL '79 TOTAL IN PROGRAM	FALL '79 PERCENT FINAN. AID	FALL '80 FINAN. AID NUMBER	FALL '80 TOTAL IN PROGRAM	FALL '80 PERCENT FINAN. AID
DENTAL HYGINE	(17.0102)**	37	136	27.2	40	132	30.3
DENTAL LABORATORY	(17.0103)	11	42	26.2	13	45	28.9
DIETETICS	(19.0503)	9	60	15.0	16	99	16.2
EMERGENCY MEDICAL SERVICES	(17.0206)	5	40	12.5	4	54	7.4
FUNERAL SERVICES	(12.0301)	19	54	35.2	19	42	45.2
MEDICAL ASSISTING	(17.0503)	2	4	50.0	14	23	60.9
MEDICAL LABORATORY	(17.0309)	25	103	24.3	43	100	43.0
MEDICAL RECORDS	(17.0506)	14	56	25.0	7	36	19.4
MENTAL HEALTH	(17.0406)	74	249	29.7	59	171	34.5
NURSING	(18.1101)	485	1424	34.1	625	1713	36.5
OPTICANRY	(17.0705)	11	29	37.9	11	49	22.5
PHYSICAL THERAPY	(17.0313)	9	52	17.3	5	55	9.1
RADIOLOGY	(17.0209)	29	135	21.5	47	140	33.6
RESPIRATORY THERAPY	(17.0210)	45	122	36.9	42	194	21.7
TOTAL		775	2506	30.9	945	2853	33.1

**VCCS EDUCATIONAL PROGRAM SUBCLUSTER GROUPS AND CODES

TABLE XI

MAP - VCCS EXISTING AND PROPOSED EDUCATIONAL PROGRAMS

CLUSTER: HEALTH TECHNOLOGY

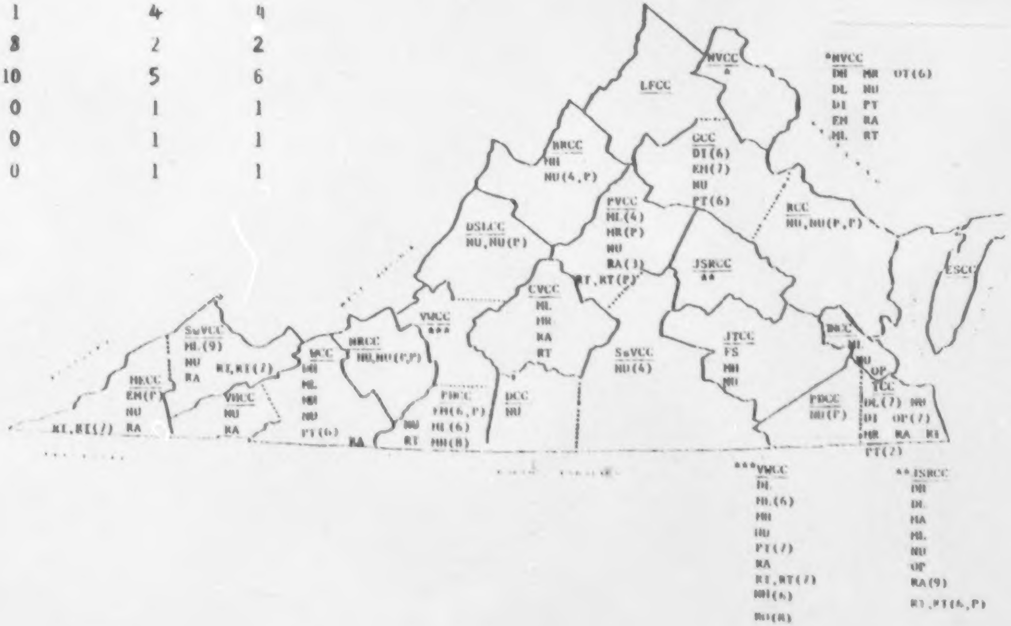
SUMMARY: (INCLUDES DEGREE, DIPLOMA AND CERTIFICATE PROGRAMS)

PROGRAM AREAS	EXISTING		PROPOSED (1982-90)	
	NO. COLLEGES	PROGRAMS	NO. COLLEGES	PROGRAMS
DH	4	6	0	0
DL	2	2	1	1
DI	2	3	1	1
FM	1	2	3	4
FS	1	1	0	0
MA	1	1	0	0
ML	5	6	4	4
MR	3	3	1	1
MH	4	5	1	1
NU	17	19	6	9
OP	2	2	1	1
PT	1	1	4	4
RA	8	8	2	2
RT	9	10	5	6
OT	0	0	1	1
NM	0	0	1	1
RO	0	0	1	1

PROGRAM AREA KEY:

DH - Dental Hygiene
DL - Dental Laboratory
DI - Dietetics
EM - Emergency Medical Services
FS - Funeral Services
MA - Medical Assisting
ML - Medical Laboratory
MR - Medical Records
MH - Mental Health
NU - Nursing
OP - Opticianry
PT - Physical Therapy
RA - Radiography
RT - Respiratory Therapy
OT - Occupational Therapy Assistant
NM - Nuclear Medicine
RO - Radiation Oncology
(P) - Proposed Diploma or Certificate
(No.) - Proposed A.A.S. Year of Initiation

Example: (4) = 1984



LFCC
NVCC
*
*NVCC
DH MR OT(6)
DL NU
DI PT
EM RA
ML RT
BRCC
MH
NU(4,P)
GCC
DI(6)
EM(7)
NU
PT(6)
PVCC
ML(4)
MR(P)
NU
RA(3)
RT,RT(P)
RCC
NU,NU(P,P)
DSLCC
NU,NU(P)
JSRCC
**
ESCC
CVCC
ML
MR
RA
RT
VWCC
***
SsVCC
NU(4)
JTCC
FS
MH
NU
DCC
ML
NU
OP
TCC
DL(7) MH
DI OP(7)
MR RA RT
PT(2)
PDCC
NU(P)
SwVCC
ML(9)
NU
RA
RT,RT(7)
MECC
EM(P)
NU
RA
RT,RT(7)
VHCC
NU
RA
WCC
MH
ML
MR
NU
PT(6)
RA
NRCC
NU,NU(P,P)
PHCC
EM(6,P)
ML(6)
MH(8)
NU
RT
DCC
NU
***VWCC
DL
ML(6)
MH
NU
PT(7)
RA
RT,RT(7)
MH(6)
NU(8)
**JSRCC
DH
DL
MA
ML
NU
OP
RA(9)
RT,PT(6,P)

CLUSTER: PUBLIC SERVICE TECHNOLOGY

DEMAND FOR PROGRAM: MANPOWER/ECONOMIC

The VCCS Cluster: Public Services Technology emphasizes programs designed primarily to provide trained workers for public service occupations in fields such as broadcasting, social services, educational support services, recreation, and law enforcement. Many of the occupations are found in local and State governments, while others are found in both the private and public employment sectors.

The following is a selected list of Public Service occupations reported in the *Monthly Labor Review*, August 1981, that are projected to show a substantial increase in demand for workers between 1978-1990 assuming conditions in the economy do not significantly alter employment trends.

Travel Agents	55.6%
Childcare Workers	46.1%
Welfare Aides	51.2%
Correction Officials	60.3%

In the field of Protective Services, employment of corrections officers and guards is expected to grow faster than the average for all occupations through the 1980s from current employment levels of 100,000 and 500,000 persons respectively. Employment of police officers and fire fighters is expected to grow about as fast as the average for all occupations through the 1980s.

In the field of Educational Services, employment of teacher aides is expected to increase much faster than the average for all occupations through the 1980s. If past trends continue, the proportion of teacher aides in relation to teachers is expected to increase. Actual job prospects, however, will vary by state and district. Budget constraints may adversely affect demands for these workers in some areas, while other districts, unable to afford additional or highly paid teachers, may hire aides to lessen teachers' clerical duties.

The number of library technicians and assistants is expected to grow about as fast as the average for all occupations through the 1980s. The expansion of library services and the growth in population will be the main factors affecting demand for library assistants and technicians. In addition, technicians and assistants increasingly will perform some of the routine tasks formerly done by librarians.

Employment in the field of Communications specifically with the Broadcasting industry is expected to grow faster than the average for all industries through the 1980s. Competition will be very keen for entry positions because this field traditionally attracts large numbers of job seekers. Most entry positions are likely to be available in small stations as stations in major metropolitan areas generally seek highly experienced personnel. Technological developments are also likely to limit employment growth in some Broadcasting occupations. Cable television has emerged as a powerful new dimension in communications. Additional job opportunities for professional, technical, maintenance and other workers will be created as cable television systems expand to more and more locations. Many of these new jobs will be in smaller cities where most cable television systems are located to improve reception in those areas.

EXISTING AND PROPOSED PROGRAMS

The Virginia Community College System provides needed educational opportunities in the Public Service fields by offering, through existing programs and/or majors, some 48 Associate in Applied Science (AAS) degrees and 80 public service related diploma and certificate (D/C) awards. In addition, some 14 AAS and 16 diploma and certificate programs are proposed for implementation at the colleges during the years 1982-90. These Public Service Technology offerings are tied to a curriculum structure composed of 6 National Center for Education Statistics (NCES) Public Service programs. The community colleges' existing 1981-82 AAS, diploma and certificate public service offerings as well as the proposed programs and majors for 1982-90 are grouped below, by the 6 NCES degree program categories.

	Existing Programs*		Proposed Programs*	
Programs (NCES)	AAS	D/C	AAS	D/C
Communication Technology	1	2	1	2
Community Services/Public Administration	5	2	1	1
Educational Services	5	26	2	4
Human Services	6	21	6	2
Parks and Recreation	3	0	2	0
Protective Services	28	29	3	7
Cluster Totals	48	80	15	16

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*Programs (NCES) include one or more majors and/or non-degree programs.

The Virginia regional and college service area placement of existing and proposed Public Service Technology programs is shown in the TABLES in this section. Refer to the the MAP. Refer also to Appendix C: 1981-82 VCCS Curricular Matrix of Existing Programs and Proposed Programs for 1982-90. This matrix presents, by college, the AAS, diploma, and certificate public service offerings for both existing and proposed programs.

The *VCCS Master Plan* includes for the 1982-84 biennium the following programs and majors which have previously attained State Board for Community Colleges approval.

1982-83

Degree Programs

College: New River
Degree Program: Educational Services
Major: Educational Services

College: Tidewater
Degree Program: Human Services
Major: Gerontology

1983-84

Degree Programs

None

Existing Degree Programs - New Major

College: New River
Degree Program: Protective Services
Major: Security Administration

College: Tidewater
Degree Program: Community Services/Public Administration
Major: Public Administration

Using prioritization categories of Recommended for Approval, Recommended for Approval with Conditions, and Not Recommended, the State Board for Community Colleges approved two Public Service Technology programs proposed by the colleges for 1984-86. Board actions are as follows:

Recommended for Approval

College: Mountain Empire
Degree Program: Protective Services -- (1984)
Major: Police Science

Recommended with Conditions

College: Tidewater
Degree Program: Communication Technology -- (1984)
Major: Radio/Television Production

State Board recommendations on programs for the 1986-88 and 1988-90 biennia, are not included (as proposed by the colleges' *Six Year Curricular Plans*) in this *Master Plan*, since these proposed programs will be reviewed using new 1980 U.S. Census data and new Virginia occupational trend information. Programs proposed for 1986-90 are shown in Appendix C.

ENROLLMENTS: PRODUCTIVITY AND PROFILES

As of fall, 1981, 21 of the 23 community colleges reported enrollments in Public Service Technology programs. Refer to the accompanying table concerning VCCS/college enrollments in Public Service Technology for the period 1977-1981. College enrollment and productivity patterns for the programs are as follows:

Profile characteristics for 1977 and 1981 for the Cluster: Public Service Technology are as follows. Refer to the set of TABLES which follow the description of the Cluster.

- Fall headcount and AAS totals. The 4892 students enrolled in fall, 1977 Public Service Technology programs represented 15.8 percent of all students enrolled in Associate in Applied Science (AAS) programs. The percentage of AAS total for the 4089 students enrolled as of fall, 1981, was 10.9.
- Full-time students. Full-time enrollment was 1925 or 39.4 percent in 1977 and 1727 or 42.3 percent in 1981.
- Females and minorities. Females constituted 37.4 percent of the cluster enrollments in 1977 and 52.8 percent in 1981. Minority enrollments have remained consistent at 25.2 percent in 1977 and 26.3 percent in 1981.
- Age. The median age of all students in Public Service Technology was 31 in 1977 and 27 in 1981.

Enrollment distribution and productivity.

- Distribution. The offering of 128 Public Service Technology programs by 21 colleges has afforded Virginians in most communities the opportunity to enroll in programs leading to AAS degrees, diplomas, and certificates. During the five years -- 1977 to 1981, some 21510 students enrolled during the five fall quarters in these programs. During the same five years, 5222 graduates attained awards. Refer to the accompanying TABLE, Enrollments and Graduates in Public Service Technology: Totals and Averages by College.
- Productivity. Measures of program productivity for the Cluster: Public Service Technology, are obtained from fall headcount, **fall FTES**, and graduate figures.

TABLE: VCCS **ENROLLMENTS** CLUSTER: PUBLIC SERVICE TECHNOLOGY

ENROLLMENTS AND GRADUATES: TOTALS AND AVERAGES BY COLLEGE, 1977 - 1981

COLLEGE	FALL HEADCOUNT 5-YR. TOTAL	FALL HEADCOUNT AVERAGE PER YR.	FALL FTES 5-YR. TOTAL	FALL FTES AVERAGE PER YR.	GRADUATES 5-YR. TOTAL	GRADUATES AVERAGE PER YR.
BLUE RIDGE	305	61.0	162.3	32.5	75	15.0
CENTRAL VIRGINIA	761	152.2	339.1	67.8	248	49.6
DABNEY S. LANCASTER	130	26.0	64.1	12.8	35	7.0
DANVILLE	613	122.6	383.2	76.6	235	47.0
EASTERN SHORE	-	-	-	-	-	-
GERMANNA	165	33.0	91.1	18.2	28	5.6
J. SARGEANT REYNOLDS	1328	265.6	835.8	167.2	316	63.2
JOHN TYLER	507	101.4	290.9	58.2	178	35.6
LORD FAIRFAX	1074	214.8	313.0	62.6	352	70.4
MOUNTAIN EMPIRE	191	38.2	121.0	24.2	20	4.0
NEW RIVER	848	169.6	649.5	129.9	192	38.4
NORTHERN VIRGINIA	4147	829.4	2552.0	510.4	1108	221.6
PATRICK HENRY	82	16.4	20.2	4.0	0	0
PAUL D. CAMP	495	99.0	316.7	63.3	129	25.8
PIEDMONT VIRGINIA	335	67.0	215.0	43.0	101	20.2
RAPPAHANNOCK	436	87.2	280.2	56.0	155	31.0
SOUTHSIDE VIRGINIA	976	195.2	792.5	158.5	282	56.4
SOUTHWEST VIRGINIA	596	119.2	368.2	73.6	94	18.8
THOMAS NELSON	1726	345.2	1041.3	208.3	324	64.8
TIDEWATER	4963	992.6	3074.6	614.9	882	176.4
VIRGINIA HIGHLANDS	416	83.2	377.0	75.4	91	18.2
VIRGINIA WESTERN	1122	224.4	785.7	157.1	177	35.4
WYTHEVILLE	294	58.8	220.7	44.1	200	40.0
VCCS	21510	4302.0	13293.9	2658.8	5222	1044.4

- Average headcount. The five-year fall headcount total figures yield an average of 4302 students enrolled each fall, 1977 to 1981.

- Average FTES. Full-time equivalent student figures for the five fall quarters were 13293.9. This total yielded an average fall quarter FTES of 2658.8 for each year 1977 to 1981.

- Average number of graduates. For each year, 1977 to 1981, the average number of graduates from Public Service Technology programs was 1044.4.

- Shifts in program enrollments. The table of 5-Year Trends shows cluster declines in fall headcount (-16.42%), fall FTES (-15.5%), and graduates (-7.9%) from 1977 to 1981. Communication Technology, Educational Services and Human Services experienced varying degrees of growth in enrollments from fall 1977 to fall 1981, while Community Services/Public Administration, Parks and Recreation, and Protective Services experienced declines.

Program costs and student aid. Resource allocation and students' access to financial aid are important VCCS planning considerations.

- Cost per credit hour. For the six clusters of occupational-technical programs that lead to the Associate in Applied Science Degree, the average cost per credit hour is $25.26. The average cost per credit hour for those programs in the Cluster: Public Service Technology is $22.74. The Radio/Television Production program is a particularly high cost program with an average credit hour cost of $68.21.

- Student financial aid. In the fall, 1980, some 1039 students out of 3973 enrolled in Public Service Technology programs received financial aid. The percentage receiving aid for fall, 1980, ranged from a high of 43.6 percent for Community Services/Public Administration to a low of 16.0 percent for Protective Services.

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DEMAND FOR PROGRAMS: MANPOWER/ECONOMIC

CLUSTER: PUBLIC SERVICE TECHNOLOGY

TRENDS

- THE OUTLOOK FOR CORRECTIONS OFFICERS AND SECURITY GUARDS IS EXPECTED TO BE FAVORABLE DURING THE 1980's.
- EMPLOYMENT FOR FIREFIGHTERS AND POLICE OFFICERS IS EXPECTED TO GROW AS FAST AS THE AVERAGE FOR ALL OCCUPATIONS THROUGH THE 1980's.
- OCCUPATIONAL SAFETY AND HEALTH OCCUPATIONS ARE EXPECTED TO GROW FASTER THAN THE AVERAGE FOR ALL OCCUPATIONS BUT WILL DEPEND ON THE AMOUNT OF FEDERAL, STATE, AND LOCAL REGULATORY ACTIVITY.
- SOCIAL SERVICE OCCUPATIONS SHOULD EXPERIENCE AVERAGE GROWTH COMPARED TO ALL OCCUPATIONS BUT WILL DEPEND ON THE LEVEL OF GOVERNMENT EMPHASIS AND FUNDING.

OCCUPATIONAL MANPOWER DEMAND AND SUPPLY (STATEWIDE)

PROGRAMS	OIS OCCUPATIONS	1976-1982 AVG. ANNUAL OPENINGS STATE OF VA.	1979-80 SUPPLY VCCS	1979-80 SUPPLY ALL SOURCES	COMMENTS
COMMUNICATIONS TECHNOLOGY RDTV PRODUCTION	RADIO OPERATORS TELEVISION CAMERA OPERATORS ANNOUNCERS	70	14	281	
COMMUNITY SERVICES AND PUBLIC ADMINISTRATION COMMUNITY & SOCIAL SERVICES	SOCIAL WORKERS ELIGIBILITY WORKERS WELFARE SERVICE AIDES	580	149	149	
PUBLIC ADMINISTRATION	URBAN & REGIONAL PLANNERS	10	23	23	NOTE TRENDS IN LOCAL, STATE AND FEDERAL GOVERNMENT EMPLOYMENT.
EDUCATIONAL SERVICES EARLY CHILDHOOD DEVELOP.	PRESCHOOL, KINDERGARTEN TEACHERS CHILD CARE WORKERS	490	135	494	623 ALSO SUPPLIED BY BACHELOR'S OR HIGHER PROGRAMS.
EDUCATIONAL SERVICES	PRESCHOOL, KINDERGARTEN TEACHER LIBRARY ASSISTANTS TEACHER AIDES	590	146	171	
SPECIAL EDUCATION	TEACHER AIDES	210	63	73	JOB DEMAND MAY BE SIGNIFICANTLY REFLECTING OPENINGS BACHELOR'S OR HIGHER COUNSELING JOBS.

TABLES I & II

DEMAND FOR PROGRAMS: MANPOWER/ECONOMIC (CONT.)

CLUSTER: PUBLIC SERVICE TECHNOLOGY

OCCUPATIONAL MANPOWER DEMAND AND SUPPLY (STATEWIDE)

PROGRAMS	OIS OCCUPATIONS	1976-1982 AVG. ANNUAL OPENINGS STATE OF VA.	1979-80 SUPPLY VCCS	ALL SOURCES	COMMENTS
HUMAN SERVICES					
ALCOHOL & DRUG ABUSE REHAB.	SOCIAL WORKERS ELIGIBILITY WORKERS WELFARE SERVICE AIDES	580	149	149	
GERONTOLOGY	SAME AS 41.1	580	149	149	
HUMAN SERVICES	PERSONNEL, LABOR RELATIONS EMPLOYMENT INTERVIEWERS SOCIAL WORKERS VOCATIONAL/EDUCATION COUNSELORS ELIGIBILITY WORKERS WELFARE SERVICE AIDES	980	105	312	MAY ALSO HAVE SIGNIFICANT SUPPLY FROM BACHELOR'S OR HIGHER PROGRAMS IN SOCIAL WORK AND COUNSELING OCCUPATIONS.
CAREER STUDIES	VARIES				NOT APPLICABLE WITH AVAILABLE DATA.
PARKS & RECREATION					
RECREATION	RECREATION WORKERS	120	117	197	
PROTECTIVE SERVICES					
ADMINISTRATION OF JUSTICE	SEE 43.4	1660	329	332	
CORRECTIONS SCIENCE	CORRECTIONAL INSTITUTION OFFICERS	240	251	251	
FIRE SCIENCE	FIREFIGHTERS	150	43	46	
POLICE SCIENCE	GUARDS & DOORKEEPERS SECURITY CHECKERS U. S. MARSHALS POLICE & DETECTIVES STORE DETECTIVES SHERIFFS & BAILIFFS	1660	329	332	SEE 43.1, 43.5
SECURITY ADMINISTRATION	SEE 43.4	1660	329	332	

TABLE III

DEMAND FOR PROGRAMS: MANPOWER/ECONOMIC (CONTINUED) CLUSTER: PUBLIC SERVICE TECHNOLOGY

SUMMARY: STATEWIDE EMPLOYMENT OPPORTUNITIES

PROGRAM AREAS	ACTUAL 1976 JOBS	PROJECTED 1982 JOBS	PROJECTED 1985 JOBS	AVERAGE ANNUAL JOB OPENINGS
COMMUNICATION TECHNOLOGY	950	1190	1310	70
COMMUNITY SERVICES/PUBLIC ADMINISTRATION	10210	11330	11840	590
EDUCATIONAL SERVICES	14160	16580	20210	900
HUMAN SERVICES	24460	26910	28085	1310
PARKS & RECREATION	2870	3090	3200	120
PROTECTIVE SERVICES	33780	37790	39795	2050

VIRGINIA HIGH SCHOOL SENIORS' INTERESTS IN FURTHER EDUCATION (DEPARTMENT OF EDUCATION SURVEY, 1980)

SURVEY INTEREST AREA	MALES	% OF MALE GRADUATES	FEMALE	% OF FEMALE GRADUATES
PUBLIC AFFAIRS & SERVICES	728	2.6	1106	3.6
PSYCHOLOGY	265	1.0	1036	3.4

STATEWIDE PROGRAM OFFERINGS BY VCCS PROGRAM CLUSTER

THE DIRECTORY OF VIRGINIA'S POSTSECONDARY EDUCATION AND TRAINING OPPORTUNITIES (SCHEV, 1979-80) PROVIDES LISTS OF VIRGINIA COLLEGES/UNIVERSITIES AND PROPRIETARY SCHOOLS WHICH OFFER PROGRAMS/COURSEWORK RELATED TO ONE OR MORE OF THE COMMUNITY COLLEGE AWARD AREAS: ASSOCIATE DEGREE, DIPLOMA, OR CERTIFICATE. FOR THE CLUSTER--PUBLIC SERVICE TECHNOLOGY, REFER TO THE DIRECTORY WHICH LISTS INSTITUTIONS BY HEGIS CATEGORIES AS FOLLOWS:

ASSOCIATE DEGREE

- COMMUNICATIONS/BROADCASTING (5008)
- PUBLIC SERVICE, GENERAL (5501)
- TEACHER AIDE, CHILD CARE (5503)
- LIBRARY ASSISTANT (5504)
- POLICE, LAW ENFORCEMENT TECHNOLOGY (5505)
- RECREATION AND SOCIAL WORK (5506)
- FIRE CONTROL (5507)
- PUBLIC ADMINISTRATION (5508)
- SECURITY ADMINISTRATION (5591)
- CORRECTIONS SCIENCE (5592)
- HUMAN & CAREER DEVELOPMENT SERVICES (5593)
- RECREATION LEADERSHIP (5594)

DIPLOMA/CERTIFICATE

- COMMUNICATIONS/BROADCASTING (5008)
- COSMETOLOGY, PERSONAL SERVICE (5006)
- PUBLIC SERVICE, GENERAL (5501)
- TEACHER AIDE, CHILD CARE (5503)
- POLICE, LAW ENFORCEMENT TECHNOLOGY (5505)
- FIRE CONTROL (5507)
- PUBLIC ADMINISTRATION (5508)
- SECURITY ADMINISTRATION (5591)
- CORRECTIONS SCIENCE (5592)
- HUMAN & CAREER DEVELOPMENT SERVICES (5593)
- CONTINUING CAREER STUDIES (5595)
- APPLIED MUSIC TECHNOLOGY (5599)

TABLE IV

ENROLLMENTS: PRODUCTIVITY AND PROFILES

CLUSTER: PUBLIC SERVICE TECHNOLOGY

TRENDS

- FALL HEADCOUNT ENROLLMENT DECLINED FROM 4892 IN 1977 TO 4089 IN 1981. INCREASES OCCURRED FOR COMMUNICATION, FROM 59 IN 1977 TO 74 IN 1981; FOR EDUCATIONAL SERVICES, FROM 570 TO 619; AND FOR HUMAN SERVICES, FROM 327 TO 864. PROTECTIVE SERVICES RECORDED DECREASES FROM 3005 TO 1903. POLICE SCIENCE ENROLLMENTS DROPPED FROM 2301 TO 1300.
- FOR THE CLUSTER: PUBLIC SERVICES TECHNOLOGY AN AVERAGE OF 2658.8 FALL FTES WERE GENERATED EACH YEAR, 1977 TO 1981. FALL FTES DECREASED FROM 3022.5 IN 1977 TO 2553.0 IN 1981.
- FOR THE 5-YEAR PERIOD, THE CLUSTER: PUBLIC SERVICE TECHNOLOGY PRODUCED 5222 AWARDS OR 1044.4 PER YEAR. AWARDS IN HUMAN SERVICES GREW FROM 61 IN 1977 TO 220 IN 1981; AND EDUCATIONAL SERVICES FROM 134 TO 184. PROTECTIVE SERVICES AWARDS, INCLUDING AWARDS FOR FIRE SCIENCE AND POLICE SCIENCE DECLINED FROM 784 IN 1977 TO 474 IN 1981.

5-YR. TOTALS AND AVERAGES: HEADCOUNT, FTES, AND GRADUATES

PROGRAM AREAS	FALL HEADCOUNT* 5-YR. TOTAL	FALL HEADCOUNT* AVERAGE PER YR.	FALL FTES* 5-YR. TOTAL	FALL FTES* AVERAGE PER YR.	GRADUATES* 5-YR. TOTAL	GRADUATES* AVERAGE PER YR.
COMMUNICATION	338	67.6	297.4	59.5	53	10.6
COMMUNITY SERVICES	2948	589.6	2086.2	417.2	451	90.2
EDUCATIONAL SERVICES	3001	600.2	1744.0	348.8	788	157.6
HUMAN SERVICES	2782	556.4	1531.3	306.3	815	163.0
PARK & RECREATION	960	192.0	652.3	130.5	171	34.2
PROTECTIVE SERVICES	11481	2296.2	6982.7	1396.5	2944	588.8
CLUSTER TOTALS	21510	4302.0	13293.9	2658.8	5222	1044.4

FALL QUARTER HEADCOUNT PROFILE DATA FOR CLUSTER

PROFILE ITEMS	FALL 77 NUMBER	FALL 77 PERCENT	FALL 81 NUMBER	FALL 81 PERCENT
TOTAL HEADCOUNT	4892	100.0	4089	100.0
FULL-TIME	1925	39.4	1727	42.3
MINORITY	1231	25.2	1075	26.3
FEMALE	1831	37.4	2160	52.8
MEDIAN AGE	31		27	

*INCLUDES DATA FROM PROGRAMS, DIPLOMA, AND CERTIFICATE ENROLLMENTS AND AWARDS.

TABLE V

ENROLLMENTS: PRODUCTIVITY AND PROFILES (CONTINUED)

CLUSTER: PUBLIC SERVICE TECHNOLOGY

5-YEAR TRENDS: NUMBER AND PERCENT DIFFERENCE

FALL HEADCOUNT

PROGRAM AREAS	1977 NUMBER	1981 NUMBER	DIFFERENCE FALL '77 TO FALL '81 N	%
COMMUNICATION TECHNOLOGY	59	74	15	25.4
COMMUNITY SERVICES/PUBLIC ADMINISTRATION	661	487	-174	-26.3
EDUCATIONAL SERVICES	570	619	49	8.6
HUMAN SERVICES	327	864	537	164.2
PARKS AND RECREATION	270	142	-128	-47.4
PROTECTIVE SERVICES	3005	1903	-1102	-36.7
CLUSTER TOTALS	4892	4089	-803	-16.4

FALL FTES

PROGRAM AREAS	1977 NUMBER	1981 NUMBER	DIFFERENCE FALL '77 TO FALL '81 N	%
COMMUNICATION TECHNOLOGY	53.2	63.9	10.7	20.1
COMMUNITY SERVICES/PUBLIC ADMINISTRATION	485.3	327.3	-158.0	-32.6
EDUCATIONAL SERVICES	298.9	366.1	67.2	22.5
HUMAN SERVICES	171.8	517.9	346.1	201.5
PARKS AND RECREATION	200.8	91.3	-109.5	-54.5
PROTECTIVE SERVICES	1812.4	1186.4	-626.0	-34.5
CLUSTER TOTALS	3022.5*	2553.0*	-469.5	-15.5

GRADUATES (ANNUAL)

PROGRAM AREAS	1977 NUMBER	1981 NUMBER	DIFFERENCE FALL '77 TO FALL '81 N	%
COMMUNICATION TECHNOLOGY	15	11	-4	-26.7
COMMUNITY SERVICES/PUBLIC ADMINISTRATION	65	87	22	33.8

TABLE VI

ENROLLMENTS: PRODUCTIVITY AND PROFILES (CONTINUED)

CLUSTER: PUBLIC SERVICE TECHNOLOGY

5-YEAR TRENDS: NUMBER AND PERCENT DIFFERENCE

GRADUATES (ANNUAL) CONT.

PROGRAM AREAS	1977 NUMBER	1981 NUMBER	DIFFERENCE FALL '77 TO FALL '81 N	DIFFERENCE FALL '77 TO FALL '81 %
EDUCATIONAL SERVICES	134	184	50	37.3
HUMAN SERVICES	61	220	159	260.7
PARKS AND RECREATION	35	32	-3	-8.6
PROTECTIVE SERVICES	784	474	-310	-39.5
CLUSTER TOTALS	1094	1008	-86	-7.9

*ROUNDING MAY CAUSE TOTALS TO BE SLIGHTLY DIFFERENT THAN INDIVIDUAL ENTRIES.

TABLE VII

PROGRAM COSTS AND STUDENTS RECEIVING FINANCIAL AID

CLUSTER: PUBLIC SERVICE TECHNOLOGY

PROGRAM/MAJOR COSTS PER CREDIT HOUR (1979-80)

PROGRAM (NCES)		NUMBER OF COLLEGES*	MINIMUM	MAXIMUM	MEDIAN
COMMUNITY SOCIAL SERVICES	(44.0101-39.1)**	4	$17.46	$23.79	$20.41
CORRECTIONS SCIENCE	(43.9999-43.2)	8	19.36	22.98	20.22
EDUCATIONAL SERVICES	(13.9999-40.2)	14	17.67	31.64	22.21
FIRE SCIENCE	(43.9999-43.3)	7	13.05	30.78	18.92
HUMAN SERVICES	(17.0499-41.3)	6	18.59	31.60	21.45
POLICE SCIENCE	(43.9999-43.4)	21	16.02	48.65	22.07
PUBLIC ADMINISTRATION	(44.0101-39.2)	1	22.00	22.00	22.00
RADIO/TV PRODUCTION	(10.0104-38.1)	1	68.21	68.21	68.21
RECREATION LEADERSHIP	(31.0101-42.1)	2	19.10	27.68	23.39
RECREATION AND PARKS	(31.0101-42.1)	1	21.87	21.87	21.87
SECURITY ADMINISTRATION	(43.9999-43.5)	2	20.06	22.40	21.23
TEACHER TRAINING FOR DEVELOPMENTALY DISABLED	(13.9999-40.3)	1	18.77	18.77	18.77

FINANCIAL AID STUDENTS

PROGRAM AREAS		FALL '79 FINAN. AID NUMBER	FALL '79 TOTAL IN PROGRAM	FALL '79 PERCENT FINAN. AID	FALL '80 FINAN. AID NUMBER	FALL '80 TOTAL IN PROGRAM	FALL '80 PERCENT FINAN. AID
COMMUNICATION	(10.0104)**	16	68	23.5	23	66	34.8
COMMUNITY SERVICES/PA	(44.0101)	280	557	50.3	244	560	43.6
EDUCATIONAL SERVICES	(13.9999)	191	593	32.2	245	640	38.3
HUMAN SERVICES	(17.0499)	117	468	25.0	200	680	29.4
PARK AND RECREATION	(31.0101)	32	178	18.0	31	178	17.4
PROTECTIVE SERVICES	(43.9999)	223	2140	10.4	1849	1849	16.0
TOTAL		859	4004	21.5	1039	3973	26.2

*NUMBER OF COLLEGES OFFERING PROGRAM IN THE 1979-80 YEAR

**VCCS EDUCATIONAL PROGRAM SUBCLUSTER GROUP AND CODES

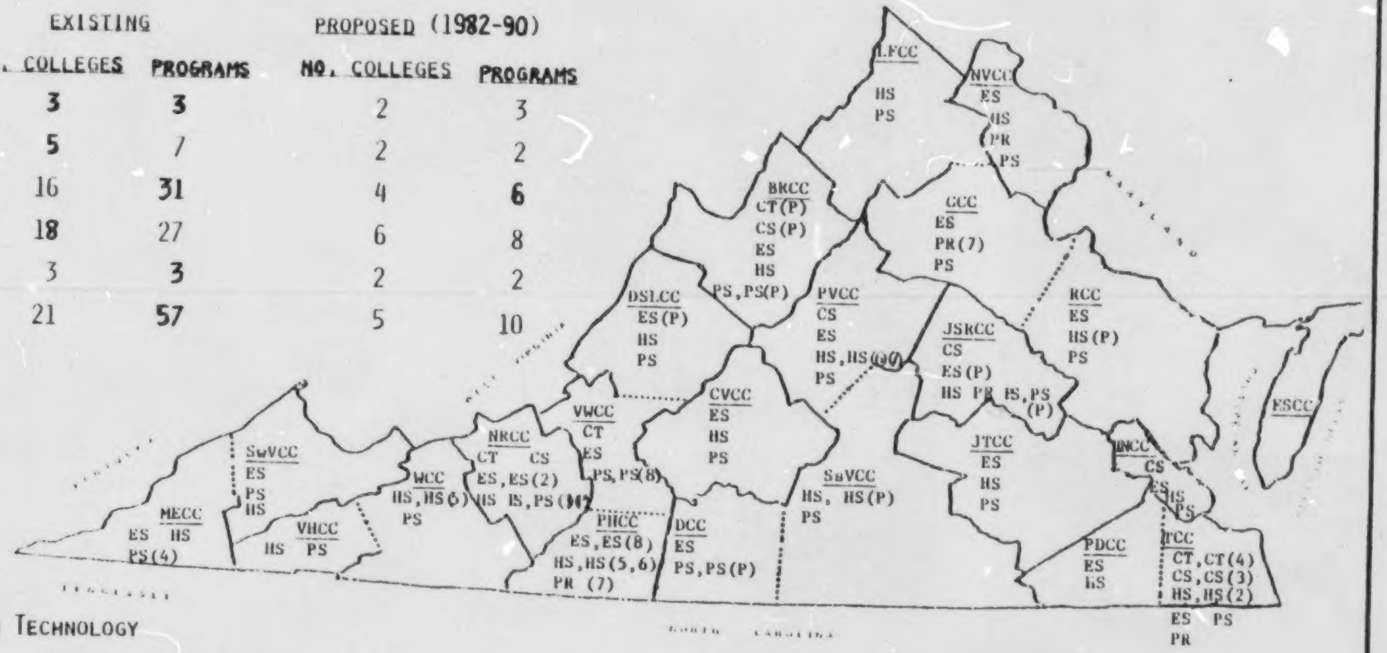
TABLE VIII

MAP - VCCS EXISTING AND PROPOSED EDUCATIONAL PROGRAMS

CLUSTER: PUBLIC SERVICE TECHNOLOGY

SUMMARY: (INCLUDES DEGREE, DIPLOMA AND CERTIFICATE PROGRAMS)

PROGRAM AREAS	EXISTING		PROPOSED (1982-90)	
	NO. COLLEGES	PROGRAMS	NO. COLLEGES	PROGRAMS
CT	**3**	**3**	2	3
CS	**5**	7	2	2
ES	16	**31**	4	**6**
HS	**18**	27	6	8
PR	3	**3**	2	2
PS	21	**57**	5	10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HS
PS
NVCC
ES
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PR
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MARYLAND
BRCC
CT(P)
CS(P)
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PR(7)
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ES HS
PS(4)
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PHCC
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HS,HS(5,6)
PR (7)
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TNCC
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PDCC
ES
HS
TCC
CT,CT(4)
CS,CS(3)
HS,HS(2)
ES PS
PR
NORTH CAROLINA

PROGRAM AREA KEY:

CT - Communication Technology
CS - Community Services/Public Administration
ES - Educational Services
HS - Human Services
PR - Parks and Recreation
PS - Protective Services
(P) - Proposed Diploma or Certificate
(No.) - Proposed A.A.S. Year of Initiation
Example: (4) = 1984

DEMAND FOR PROGRAMS: COLLEGE TRANSFER

The College Transfer programs of the Virginia Community College System have historically supported the mission of Virginia's senior institutions and the needs of student constituents by providing a base of academic programs designed to prepare students for access to and progress towards higher education at the baccalaureate degree level. The community colleges serve the added purpose of addressing developmental needs of under-prepared students who also aspire to baccalaureate level education and enhancing access for financially needy students.

In that College Transfer programs ultimately serve, for most students, as career preparation when carried through to completion at the four-year level, it is logical that community colleges would develop and refine their college transfer offerings to prepare students concurrently for both transfer and for the world of work. Community colleges, like senior institutions, also respond to shifts in demand for programs. Therefore, the increasing enrollment and graduation patterns, shown in the TABLES that follow, for Business and Engineering transfer programs, parallel similar shifts in demand for programs being experienced at the senior colleges and universities.

Virginia's community colleges are responding to similar trends as those impacting on other sectors of higher education. Their unique function is to serve a diversity of learners who aspire to four years or more of college, but who progress in that direction through a variety of avenues from remedial to honors, and in different time frames, from full-time to part-time. A continuing emphasis on a sound base of College Transfer programs and courses, with additional support for the growing needs in the fields of Business and Engineering, should allow community colleges to remain responsive to the needs of the world of work, to the diverse community of learners seeking educational opportunities, and to society in general.

A study of the transfer transition and achievement of community college students in senior colleges and universities, and the articulation relationships between Virginia's two-year and four-year institutions constitute a major objective in the ***VCCS Master Plan*** for the 1980s.

The *VCCS Master Plan* demonstrates a general stability insofar as the development of new College Transfer programs. It includes for the 1982-84 biennium the following programs which have already attained State Board for Community Colleges approval. Several VCCS colleges, Danville, Dabney S. Lancaster, Patrick Henry and Wytheville, plan to consolidate their college transfer programs into the Associate in Arts and Sciences degree program during 1982 and 1983.

1982-83

Degree Programs

None

1983-84

Degree Programs

None

Existing Degree Programs - New Major

College:	Tidewater
Degree Program:	Visual and Performing Arts
Major:	Theatre Arts

No new College Transfer degree programs or majors are proposed for 1984-86. Programs proposed for 1986-90 are indicated in Appendix C.

EXISTING AND PROPOSED PROGRAMS

The Virginia Community College System provides for the College Transfer aspect of its comprehensive mission by offering some 25 Associate in Arts (AA) degree programs, 75 Associate in Science (AS) degree programs, and 48 Associate in Arts & Sciences (AA/S) degree programs. In addition, two degree programs are proposed for implementation at the colleges during the years 1982-90. The College Transfer programs are tied to a curriculum structure composed of 8 National Center of Education Statistics (NCES) programs. The community colleges' existing 1981-82 degree programs and majors as well as the proposed programs and majors for 1982-90 are shown below.

Program (NCES)	Existing Degree Programs/Majors	Proposed Degree Programs/Majors
Liberal Arts (AA)	17	0
Visual & Performing Arts (AA)	8	4
Business Administration (AS)	17	0
Education (AS)	18	1
Engineering (AS)	8	0
General Studies (AS)	15	0
Natural Sciences (AS)	17	0
Arts & Sciences (AA/S)	48	0
Cluster Totals	148	5

ENROLLMENTS: PRODUCTIVITY AND PROFILES

As of fall, 1981, all 23 community colleges reported enrollments in College Transfer programs. Refer to the accompanying table concerning VCCS/college enrollments in College Transfer programs for the period 1977-81. College enrollment and productivity patterns for the programs are as follows:

Profile characteristics for 1977 and 1981 for the Cluster: College Transfer are as follows. Refer to the set of TABLES which follow the description of the Cluster.

- Fall headcount and AAS totals. A total of 13565 students enrolled in College Transfer programs in fall, 1977, while 16815 enrolled during the same quarter in 1981, an increase of 23.9 percent.

- Full-time students. Full-time enrollments declined somewhat, from 52.2 percent in 1977 to 49.9 percent in 1981.

- Females and minorities. Females constituted 36.7 percent of cluster enrollments in 1977 and 52.6 percent in 1981. Minority enrollments increased from 10.9 percent in 1977 to 15.0 percent in 1981.

- Age. The median age of students in the College Transfer cluster was 30 in 1977 and 27 in 1981.

Enrollment distribution and productivity.

- Distribution. The offering of 148 College Transfer programs by 23 colleges has afforded Virginians in most communities the opportunity to access a variety of College Transfer programs leading to AA, AS, and AA/S degrees. During the five years -- 1977 to 1981, some 72589 students enrolled during the five fall quarters in these programs. During the same five years, 9465 graduates attained awards. Refer to the accompanying TABLE, Enrollments and Graduates in College Transfer: Totals and Averages by College.

- Productivity. Measures of program productivity for the Cluster: College Transfer, are obtained from fall headcount, fall FTES, and graduate figures.
  - Average headcount. The five-year fall headcount total figures yield an average of 14517.8 students enrolled each fall, 1977 to 1981.
  - Average FTES. Full-time equivalent student figures for the five fall quarters were 50724. This total yielded an average fall quarter FTES of 10144.7 for each year 1977 to 1981.

TABLE: VCCS ENROLLMENTS CLUSTER: COLLEGE TRANSFER

ENROLLMENTS AND GRADUATES: TOTALS AND AVERAGES BY COLLEGE, 1977 - 1981

COLLEGE	FALL HEADCOUNT 5-YR. TOTAL	FALL HEADCOUNT AVERAGE PER YR.	FALL FTES 5-YR. TOTAL	FALL FTES AVERAGE PER YR.	GRADUATES 5-YR. TOTAL	GRADUATES AVERAGE PER YEAR
BLUE RIDGE	1762	325.4	1491.8	298.4	199	39.8
CENTRAL	2839	567.8	1964.2	392.8	440	88.0
DABNEY [illegible] LANCASTER	325	70.0	284.4	56.9	105	21.0
DANVILLE	1349	269.8	1310.1	262.0	404	80.8
EASTERN SHORE	279	55.8	251.6	50.3	77	15.4
GERMANNA	992	198.4	764.9	153.0	122	24.4
J. SARGEANT REYNOLDS	2464	492.8	1670.9	334.2	385	77.0
JOHN TYLER	600	120.0	376.9	75.4	97	19.4
LORD FAIRFAX	1709	341.8	1388.7	277.7	250	50.0
MOUNTAIN EMPIRE	526	105.2	396.6	79.3	126	25.2
NEW RIVER	1739	347.8	1436.0	287.2	186	37.2
NORTHERN VIRGINIA	18379	3675.8	11484.8	2297.0	3153	630.6
PATRICK HENRY	1588	317.6	1222.9	244.6	292	58.4
PAUL D. CAMP	1036	207.2	721.4	144.3	101	20.2
PIEDMONT VIRGINIA	3433	686.6	2293.8	453.8	287	57.4
RAPPAHANNOCK	791	158.2	621.4	124.3	84	16.8
SOUTHSIDE VIRGINIA	927	185.4	807.9	161.6	135	27.0
SOUTHWEST VIRGINIA	3169	633.8	2238.3	447.7	417	83.4
THOMAS NELSON	4915	983.0	3388.7	677.7	446	89.2
TIDEWATER	15742	3148.4	10073.1	2014.6	1253	250.6
VIRGINIA HIGHLANDS	1482	296.4	1354.5	270.9	264	52.8
VIRGINIA WESTERN	5717	1143.4	4412.1	882.4	443	88.6
WYTHEVILLE	826	165.2	768.7	153.7	220	44.0
VCCS	72589	14517.8	50724.0	10144.7	9465	1893.0

- Average number of graduates. For each year, 1977 to 1981, the average number of graduates from College Transfer programs was 1893.

- Shifts in program enrollments. The program areas of Business Administration, Engineering, General Studies, and Visual and Performing Arts experienced significant headcount and FTES increases, while Liberal Arts and Education declined significantly.

Program costs and student aid. Resource allocation and students' access to financial aid are important VCCS planning considerations.

- Cost per credit hour. For the College Transfer degree programs, the average cost per credit hour (1979-80) is $21.60. The Business Administration program is the lowest cost with an average credit hour cost of $20.46. The highest cost program is Visual and Performing Arts (MUSIC) with an average credit hour cost of $29.52.

- Student financial aid. In the fall, 1980, some 2879 students out of 14810 enrolled in College Transfer programs received financial aid or 19.4 percent. This represents an increase of 2.8% from fall, 1979.

TABLES
CLUSTER: COLLEGE TRANSFER

CONTENTS — TABLES

ENROLLMENTS: PRODUCTIVITY AND PROFILES

- TRENDS: POPULATION AND EMPLOYMENT AND VIRGINIA HIGH SCHOOL SENIORS' INTEREST AND 5-YEAR TOTALS AND AVERAGES: HEADCOUNT, FTES AND GRADUATES I
- FALL QUARTER HEADCOUNT PROFILE DATA I

5-YEAR TRENDS: NUMBER AND PERCENT DIFFERENCE

  - FALL HEADCOUNT II
  - FALL FTES II
  - GRADUATES II

PROGRAM COSTS AND STUDENTS RECEIVING FINANCIAL AID III

TABLE I

ENROLLMENTS: PRODUCTIVITY AND PROFILES

CLUSTER: COLLEGE TRANSFER

TRENDS

- THE OVERALL DECLINE IN THE SCHOOL AGE POPULATION AND THE CONCOMITANT DECLINE IN EMPLOYMENT OPPORTUNITIES IN TEACHING IN GENERAL HAS RESULTED IN DECREASING ENROLLMENTS IN TEACHER TRAINING PROGRAMS.
- CONCERNS OF COLLEGE STUDENTS IN THE LATE 1970'S AND EARLY 1980'S REGARDING CAREERS AND MAKING A GOOD LIVING THROUGH A JOB HAVE BEEN REFLECTED IN ENROLLMENT INCREASES IN ENGINEERING AND BUSINESS FIELDS, AND IN DECLINES IN THE LIBERAL ARTS.

VIRGINIA HIGH SCHOOL SENIORS' INTERESTS IN FURTHER EDUCATION (DEPARTMENT OF EDUCATION, 1980)

SURVEY INTEREST AREA	MALES	% OF MALE GRADUATES	FEMALE	% OF FEMALE GRADUATES
EDUCATION STUDENT WOULD LIKE TO HAVE (ITEM 16) - GO TO A FOUR-YEAR COLLEGE OR UNIVERSITY	8826	31.7	9840	31.9

5-YR. TOTALS AND AVERAGES: HEADCOUNT, FTES, AND GRADUATES

PROGRAM AREAS	FALL HEADCOUNT 5-YR. TOTAL	FALL HEADCOUNT AVERAGE PER YR.	FALL FTES 5-YR. TOTAL	FALL FTES AVERAGE PER YR.	GRADUATES 5-YR. TOTAL	GRADUATES AVERAGE PER YR.
LIBERAL ARTS	7841	1568.2	5876	1175.1	661	132.3
VISUAL AND PERFORMING ARTS	2488	497.6	1533	306.6	251	50.2
BUSINESS ADMINISTRATION	2130	4260.2	13958	2791.6	2516	503.2
EDUCATION	8266	1653.2	5916	1183.2	1723	344.6
ENGINEERING	5134	1026.8	4025	805.1	356	71.2
GENERAL STUDIES	17542	3508.4	11648	2329.6	2814	562.8
NATURAL SCIENCES	9259	1851.8	7144	1428.8	1144	228.8
ARTS AND SCIENCES*	758	151.6	624	124.7	0	0.0
CLUSTER TOTALS	72589	14517.8	50724	10144.7	9465	1893.0

FALL QUARTER HEADCOUNT PROFILE DATA FOR CLUSTER

PROFILE ITEMS	FALL 77 NUMBER	FALL 77 PERCENT	FALL 81 NUMBER	FALL 81 PERCENT
TOTAL HEADCOUNT	13565	100.0	16815	100.0
FULL-TIME	7078	52.2	8403	49.9
MINORITY	1501	10.9	2528	15.0
FEMALE	4980	36.7	8849	52.6
MEDIAN AGE	30	-	27	-

*DATA AVAILABLE FIRST TIME FOR FALL 81.

TABLE II

ENROLLMENTS: PRODUCTIVITY AND PROFILES (CONTINUED)

CLUSTER: COLLEGE TRANSFER

5-YEAR TRENDS: NUMBER AND PERCENT DIFFERENCE

PROGRAM AREAS	1977 NUMBER	1981 NUMBER	DIFFERENCE FALL '77 TO FALL '81 N	DIFFERENCE FALL '77 TO FALL '81 %
FALL HEADCOUNT				
LIBERAL ARTS	1887	1447	-440	-23.3
VISUAL AND PERFORMING ARTS	340	611	321	94.4
BUSINESS ADMINISTRATION	3715	4767	1052	28.3
EDUCATION	2218	1271	-947	-42.7
ENGINEERING	842	1423	581	69.0
GENERAL STUDIES	2671	4622	1951	73.0
NATURAL SCIENCES	1892	1916	24	1.2
ARTS AND SCIENCES*	-	758	-	-
CLUSTER TOTALS	13565	16815	3250	23.9
FALL FTES				
LIBERAL ARTS	1453.8	1036.6	-417.2	-28.7
VISUAL AND PERFORMING ARTS	230.6	363.2	132.6	57.5
BUSINESS ADMINISTRATION	2450.2	3105.0	654.8	26.7
EDUCATION	1657.0	878.2	-778.8	-47.0
ENGINEERING	684.5	1101.4	416.9	60.9
GENERAL STUDIES	1786.5	2938.8	1152.3	64.5
NATURAL SCIENCES	1477.5	1471.3	-6.2	**
ARTS AND SCIENCES*	-	623.6	-	-
CLUSTER TOTALS	9740.2***	11545.1***	1804.9	18.5
GRADUATES (ANNUAL)				
LIBERAL ARTS	165	119	-46	-27.9
VISUAL AND PERFORMING ARTS	42	65	23	59.8
BUSINESS ADMINISTRATION	494	525	31	6.2
EDUCATION	476	270	-206	-43.3
ENGINEERING	67	90	23	34.3
GENERAL STUDIES	503	656	153	30.4
NATURAL SCIENCES	253	224	-29	-11.5
ARTS AND SCIENCES*	0	0	0	0.0
CLUSTER TOTALS	2000	1949	51	-2.5

*DATA AVAILABLE FOR FIRST TIME FALL '81

**LESS THAN 1%

***ROUNDING MAY CAUSE TOTALS TO BE SLIGHTLY DIFFERENT THAN INDIVIDUAL ENTRIES.

TABLE III

PROGRAM COSTS AND STUDENTS RECEIVING FINANCIAL AID

CLUSTER: COLLEGE TRANSFER

PROGRAM/MAJOR COSTS PER CREDIT HOUR (1979-80)

PROGRAM AREAS (NCES)	NUMBER OF COLLEGES*	MINIMUM	MAXIMUM	MEDIAN
LIBERAL ARTS	23	18.69	41.50	24.75
VISUAL AND PERFORMING ARTS	-	-	-	-
FINE ARTS	4	20.14	25.18	23.29
MUSIC	3	29.25	33.28	29.52
BUSINESS ADMINISTRATION	23	17.02	36.72	20.46
EDUCATION	-	-	-	-
EDUCATION	23	18.50	40.21	21.17
ART EDUCATION	1	23.97	23.97	23.97
ENGINEERING	9	20.82	47.24	25.47
GENERAL STUDIES	18	18.15	37.11	21.97
NATURAL SCIENCES	23	19.58	38.16	23.25
ARTS AND SCIENCES**	-	-	-	-

FINANCIAL AID STUDENTS

PROGRAM AREAS	FALL '79 FINAN. AID NUMBER	FALL '79 TOTAL IN PROGRAM	FALL '79 PERCENT FINAN. AID	FALL '80 FINAN. AID NUMBER	FALL '80 TOTAL IN PROGRAM	FALL '80 PERCENT FINAN. AID
LIBERAL ARTS	287	1431	20.06	301	1454	20.70
VISUAL AND PERFORMING ARTS	70	488	14.34	73	575	12.70
BUSINESS ADMINISTRATION	485	4370	11.10	612	4517	13.55
EDUCATION	327	1538	21.26	338	1468	23.02
ENGINEERING	116	953	12.17	211	1031	20.47
GENERAL STUDIES	627	3392	18.48	926	3945	23.47
NATURAL SCIENCES	409	1835	22.29	418	1820	22.97
ARTS AND SCIENCES**	-	-	-	-	-	-
TOTAL	2321	14007	16.6	2879	14810	19.4

*NUMBER OF COLLEGES OFFERING PROGRAM IN 1979-80 YEAR

**PROGRAM DATA AVAILABLE FOR FIRST TIME FALL '81

COMMUNITY EDUCATION, CONTINUING EDUCATION AND COMMUNITY SERVICES

PURPOSE

Community Education, Continuing Education and Community Services have been a traditional part of the mission of the Virginia Community College System. The VCCS mission states that,

> *"**PRINCIPAL** EMPHASIS **IS** PLACED ON OCCUPATIONAL-TECHNICAL EDUCATION. TRANSFER, DEVELOPMENTAL, CONTINUING EDUCATION AND COMMUNITY SERVICE PROGRAMS ARE **INTEGRAL PARTS OF** THE MISSION AND PROVIDE VITAL SERVICES."*

The term Continuing Education in the Virginia Community College System describes courses offered for credit as part of the regular degree, diploma, and certificate programs that allow adults in the community to continue participation in the educational process throughout their lives. These courses and activities meet diverse educational needs that range from assisting adult learners to meet changing job requirements, to providing a learning environment for those who simply want to know about today's complex world and themselves. Continuing Education also includes non-credit instructional courses, seminars and workshops which may or may not award the Continuing Education Unit (CEU).

Community Education is a term used by the State Council of Higher Education for Virginia to describe instructional activities offered for credit that are not part of the regular degree, diploma, and certificate programs in the VCCS. These activities also include continuing education instructional offerings that award the Continuing Education Unit, and non-credit instructional offerings that award continuing education units and those that do not offer continuing education units.

A summary of VCCS activity in Community Education and Community Services for 1980-81 and 1981-82 is provided in Table I.

The purpose of Community Services is to provide non-instructional services and activities, using the various resources and unique capabilities that exist within the institution, to the general community or special sectors within the community. The type of activities typically offered through a community services program would include faculty/staff consulting with business and industry, community action committees, speaker bureaus and the use of college facilities by community groups. Each community college develops community service programs that reflect the unique nature of their community.

Table I

Community Education and Community Services
1980-81 and 1981-82

	Year	
	1980-81	1981-82
Community Education (Non-Credit) Registrants	55,112	53,830
Community Services Participants	99,947	152,817
Total	155,059	206,647

ISSUES

The primary issues that affect Community Education, Continuing Education, and Community Services are:

1. The limitations on mission imposed by external agencies and groups, specifically funding restrictions on non-degree credit offerings and non-credit offerings;
2. The need to determine equitable funding for off-campus programs and non-credit courses with particular attention to the cost burden to the state and to students;
3. Funding restrictions and regulatory pressures that tend to inhibit the ability of continuing education to respond to changing local needs in a timely manner;
4. The need to develop active and cooperative partnerships with business, industry, and government.

RECOMMENDATIONS

1. That the VCCS continue to emphasize and strengthen its commitment to Community Education and Continuing Education, and to maintain Community Services, as integral aspects of the comprehensive community college mission; that particular emphasis in continuing education be given to serving the occupational training needs of Virginians. (*Master Plan* Goal #2, Objective #1 and #2)
2. That the VCCS examine the role of Community Education, Continuing Education, and Community Services in complementing and supporting the credit program offerings of the VCCS, to better serve the various educational needs of the Commonwealth. (*Master Plan* Goal #6, Objective #3)

3. That the VCCS study the funding of non-credit courses to include an examination of: (*Master Plan* Goal #8, Objective #1)

   a. The thirty percent administrative overhead charge to citizens participating in non-credit courses;

   b. State funding support for administrative services to operate non-credit courses and programs;

   c. The ability to separate funding appropriations for continuing education into accounts that won't revert back to the State at the end of each fiscal year.

VIII

VCCS MANPOWER TRAINING PARTNERSHIP WITH BUSINESS, INDUSTRY, AND GOVERNMENT

INTRODUCTION

Virginia's Governor, Charles S. Robb, stressed in his 1981 Plan for Virginia's Economic Development in the 1980s, that economic development in a broadly defined sense,"... is the single most important challenge that will face Virginia's government for the remainder of this century." To ensure the economic health of the Commonwealth, Governor Robb emphasized the need to strengthen Virginia's ability to attract new business and industry and to serve better the state's existing businesses and industries. The Governor challenged Virginia's educational institutions to play a central role in the state's economic development, especially in the area of industrial development, by providing research and educational services to meet demonstrated needs.

The *VCCS Master Plan* chapter on educational programs focused on degree, diploma, and certificate programs that prepare individuals for a wide range of occupations in industry, business, and governmental agencies. The Continuing Education role of the VCCS was also emphasized as a way the VCCS responds to specific manpower training and retraining needs, and to other educational needs in the communities served by the 23 community colleges. This chapter describes the VCCS contribution to the Commonwealth's economic development by highlighting manpower training conducted by VCCS colleges and the Industrial Training Division of the VCCS System Offices. It also focuses on other related issues as follows:

1. The type of partnership manpower training that has occurred between VCCS colleges and their communities.
2. Future outlooks for training needs.
3. The process by which VCCS colleges establish and maintain working relationships with business, industry, and government.
4. Specific issues regarding the VCCS's role in meeting the manpower training needs of the Commonwealth.
5. Recommendations for future action and planning.
6. A description of the special role of the VCCS Industrial Training Division of the System Offices in contributing to the economic development of the State in the area of industrial development.

METHODOLOGY

The information developed for this chapter was derived from a survey of the 23 community colleges. The colleges and the Director of the VCCS Industrial Training Division were asked to respond to questions regarding college roles in serving the training needs of business, industry, and government in the Commonwealth.

FINDINGS

The following list provides a limited, but representative, listing of the major types of industry, business, and government organizations that have been served by the VCCS through some form of training or retraining partnership over the last five years.

Types of Organizations Served by the VCCS

Industry

- Mining
- Textiles
- Tobacco
- Industrial Machinery
- Tire Manufacturing
- Bottle Manufacturing
- Utilities
- Plastics Manufacturing
- Food Processing
- Electrical Components Manufacturing
- Aerospace Electronics
- Furniture Manufacturing
- Metal Fabrications
- Air Conditioning Manufacturing
- Shipbuilding
- Printing
- Pharmaceutical Manufacturing
- Glass Manufacturing
- Truck Assembly
- Carpet Manufacturing
- Computer Manufacturing
- Chemical Manufacturing

Business

- Hotels/Motels
- Hospitals/Clinics
- Agricultural Businesses
- Landscaping Firms
- Nursing Homes
- Data Processing/Computer Services
- Savings & Loan Associations
- Banking
- Auto Dealerships
- Tourism
- Radio Station
- Trucking
- Real Estate
- Insurance
- Newspaper Publishing
- Advertising
- Stone Products
- Surgical Supplies
- Recordkeeping Systems

Government

- Mental Health
- Motor Vehicles
- Public Schools
- Forests and Parks
- Military Bases
- Police Departments
- Fire Departments
- Wastewater Treatment
- Prisons

Other

- CETA Programs
- Alcohol Safety Action Programs
- Chambers of Commerce
- Professional Associations
- Child Care Facilities
- County/City Government
- Recreation Agencies
- Utilities

Future Outlook for Training Needs

The colleges, in general, foresee increasing need for the remainder of the decade for training partnerships in the fields of electronics, mechanical trades, computers, health care, and other high technology fields. Continuing demand for training and assistance for small businesses is also expected. In addition, training partnerships with large industries and public governmental agencies are also anticipated to increase.

Types of Workers Trained

The following list partially represents the types of workers trained through the various training partnerships between VCCS colleges and the Commonwealth's businesses, industries, and government agencies.

- Electronics Technicians
- Electricians
- Wastewater Treatment Operators
- Welders
- Draftsmen
- Equipment Mechanics
- Machinists
- Heating & Air Conditioning Mechanics
- Industrial Maintenance Mechanics
- Nurses
- Laboratory Technicians
- Medical Technicians
- Health Assistants
- Dental Assistants
- Secretaries/Clerks
- Sales Persons
- Bookkeepers
- Real Estate Brokers and Sales Persons
- Bank Tellers
- Small Business Owners
- Food Service Workers
- Data Processing Clerks/Technicians
- Firefighters
- Law Enforcement Officers
- Teacher Aides
- Printing Workers
- Recreation Assistants
- Legal Assistants
- Supervisors (Hospitals, Utilities, Mining, etc.)
- Various Apprenticeship Occupations

Future Training Programs

For many colleges, training activity has evolved from an emphasis on semi-skilled and production workers to management and supervisory workers. The colleges expect the future training programs will increase for workers in high technology occupations, especially electronics technicians, engineering assistants, computer technicians, and health technicians. Increasing demands are anticipated for retraining of production and technical workers whose jobs change or become obsolete with advancements in technology. Continued expansion of training opportunities for management and supervisory personnel are also anticipated in the future.

VCCS colleges utilize a variety of methods to establish and maintain good working relationships, to identify manpower needs, and to develop mutual training programs and related educational services for business, industry, and government. Through these various methods VCCS colleges made over 6,500 contacts with business, industry, and government agencies during 1981-82. A summary of the major methods follows:

- Educational Program Advisory Committees
- Regular On-Site Visits to Business and Industry
- Representation by College Personnel on Boards of Community Organizations
- Faculty Contacts with Colleagues in Business, Industry and Government
- Membership in Civic Organizations
- Community and Manpower Needs Surveys
- Alumni Activities
- Coordination with Local Governmental Agencies such as Chambers of Commerce and Planning District Commissions

Membership on Business/Industry Councils and in Professional Associations
Adjunct Faculty from Business, Industry and Government
Special Advisory Committees involving Representatives from Business, Industry, and Government
Published and Other Media Information

Types of Services

VCCS colleges provide a wide variety of services to business, industry, and government tailored to satisfy demonstrated needs and to contribute to the industrial and economic development of the Commonwealth. These services include: use of facilities and equipment; faculty expertise in providing training; development of training materials; coordination of cooperative work experiences for students; faculty internships in industry and/or adjunct training opportunities for industry personnel in the community college; counseling services for workers; skills testing; job placement services such as coordination of on-campus job interviewing; and consulting assistance. In addition, many colleges conduct special workshops, seminars and events, such as international trade seminars, and community career fairs, that may lead to partnerships that serve the economic development of local communities and the Commonwealth.

ISSUES

The ability of individual VCCS colleges to respond in a timely and effective manner to the training needs of local business, industry, and government depends on many factors that vary among the colleges. However, several pervasive conditions and issues may have a significant effect on the VCCS's efforts in this area of service over the remainder of the decade. They are noted as follows:

1. The ability of the VCCS to offer competitive salaries that will allow community colleges to attract and retain highly qualified occupational/technical faculty.

2. The effect of limited resources on obtaining state-of-the-art equipment for training in high technology fields and the availability of adequate training facilities.

3. Increased faculty workloads to meet higher productivity requirements may limit college flexibility in providing responsive training programs for business and industry.

4. Limited resources for the professional development of occupational/technical faculty may reduce their ability to stay current with the skills and knowledge needed for training programs in business and industry.

5. Limits on funding to meet unexpected needs for training programs may prevent community colleges from being responsive to business and industry.

6. The condition of the Virginia economy and the general economy of the country will affect training program demand and resources that will be available both to educational institutions and to business, industry, and government for training purposes.

RECOMMENDATIONS

The following recommendations are derived from the survey of industry, business, and government manpower training activities.

1. That the VCCS continue to seek competitive salaries for occupational/technical faculty, especially, in technology fields where it is difficult to attract and retain faculty. (*Master Plan* Goal #3, Objective #2 and #6)

2. That the VCCS actively seek opportunities for professional development, to include summer internships and employment, and staff exchange programs with business and industry. (*Master Plan* Goal #3, Objective #5)

3. That the VCCS continue, as a high priority, to seek state and private funding and resources to ensure the availability of state-of-the-art equipment and facilities for occupational/technical training. (*Master Plan* Goal # 4, Objective #1 and #3)

4. That the VCCS strengthen its commitment to manpower training and industrial development to include a more effective public relations approach for making business, industry, and government aware of VCCS past accomplishments, available programs and services, and its resource needs. (*Master Plan* Goal #2, Objective #1 and #2)

5. That the VCCS develop a closer liaison with state-level agencies and organizations concerned with industrial development priorities in the Commonwealth. (*Master Plan* Goal #2, Objective #2)

6. That the VCCS improve articulation and coordination at the local and state levels to enhance education's response to manpower training needs and to eliminate unnecessary competition among potential providers and duplication of programs and resources. (*Master Plan* Goal #6, Objective #1, #2, and #3 and Goal #7, Objective #2)

VCCS INDUSTRIAL TRAINING DIVISION

PURPOSE

The Virginia Community College System began its commitment to support the economic development of Virginia in 1966 when the System was founded. The occupational-technical instructional program emphasis of Virginia's community colleges was primarily directed at providing trained manpower for the state's businesses, industries, public service organizations, and governmental agencies.

The Industrial Training Division of the VCCS was created in 1966, as a part of the VCCS central administrative offices, to provide direct training support to business and industry in cooperation with the state's community colleges, vocational-technical centers, and public agencies. The primary purpose of the Industrial Training Division as stated in its current guidelines is "to train and retrain individuals for available work opportunities created by new and existing industries."

To achieve this goal, Industrial Training works closely with the Commonwealth's Division of Industrial Development. This agency establishes and maintains contacts with new and existing industries in the state and provides extensive information and services pertaining to Virginia as a location for industrial expansion. In the 1982 edition of Virginia Facts and Figures, the Division of Industrial Development describes the VCCS's Industrial Training Programs.

> *"An important free service for the state's new and expanding industries is provided by the Industrial Training Division of the Virginia Community College System. This Division will prepare and coordinate an industrial training program tailored to meet the specific needs of any concern seeking to increase its employment. Some of the services offered to a company include assistance in recruiting prospective trainees, providing specialists to analyze job training requirements, developing and implementing training programs, conducting "Train the Trainer" programs, and arranging for adequate training facilities. Standard training equipment is also provided by the state."*

All programs provided by the Industrial Training Division are coordinated with local community colleges and vocational-technical institutions to ensure the most effective utilization of educational training resources in meeting the client's manpower needs. The following types of training are provided through Industrial Training:

1. Basic skills and knowledge training on a pre-employment and/or on-the-job basis.

2. Retraining for new skills resulting from changing product lines.

3. Periodic training to provide manpower requirements brought about by cyclical variation in the market demands for the client's products.

4. Instructor training to ensure that maximum benefit is derived from state funds invested in training programs.

In addition, non-credit supervisory and management training seminars and workshops, requested by business and industry, may be offered through the local community colleges. The VCCS Industrial Training Division can also provide audio-visual services to supplement pre-employment and on-the-job training for Virginia's industries. These services are designed to meet the specific training needs of each industry.

DATA

Table I shows the type and number of industrial training programs conducted and the number of persons trained and subsequently hired. Table II provides selected information on the types of industries and workers trained during 1981-82.

Table I

VCCS Industrial Training Activity
From January 1966 to September 1982

Training Program	Number Trained	Number Hired	Number of Programs
Operators	64,478	60,791	449
Supervisory/Trainer	3,376	-	144
Total	67,854	-	593

Table II

Selected Training Information From 1981-82
Industrial Training Programs

Type of Industry	Type of Workers Trained
Mining Equipment	Assemblers and Welders
Plastic Products	Operators
Missiles and Propellants	Machinist Inspectors
Communication Equipment	Assemblers
Printing	Operators
Food Processing Machinery	Fabricators
Printed Circuit Boards	Assemblers
Airline Reservations	Reservationists
Infant Food	Maintenance Mechanics
Automotive Brake Systems	Machine Operators

ISSUES

1. More formal and regular contacts with business and industry are needed to keep abreast of changing requirements for manpower training.

2. Restrictions in state funding policies and procedures regarding education and training activities specifically when the activities are not conducted through traditional credit courses and programs.

3. Lack of effective means of assessing local, regional, and state manpower requirements, and of determining potential educational and training opportunities with specific businesses, industries, and governmental agencies.

4. Increased involvement in local and statewide organizations, agencies, and associations concerned with economic development is needed to keep current with technological developments and manpower requirements.

RECOMMENDATIONS

1. That VCCS colleges assign specific staff and develop specific procedures for establishing and maintaining working relationships with local businesses and industries, to improve the process of sharing information and to enhance opportunities for the development of cooperative education and training programs. (*Master Plan* Goal #6, Objective #3)

2. That the VCCS examine ways to improve state and community resource support for education and training programs that are not developed for traditional academic credit purposes. (*Master Plan* Goal #8, Objective #1 and #6)

3. That the VCCS develop an effective method(s) for assessing local, regional, and state requirements for manpower training and retraining. (*Master Plan* Goal #6, Objective #3 and Goal #9, Objective #6)

4. That the VCCS conduct a study to identify local, regional and state governmental agencies, councils, organizations, and associations concerned with economic development, as a means of informing VCCS colleges of the potential sources of assistance for planning and implementing activities designed to contribute to Virginia's industrial development, manpower training, and overall economic development. (*Master Plan* Goal #2, Objective #2)

IX

VCCS ENROLLMENTS: PERSPECTIVE AND PROJECTIONS

Enrollment planning deserves its own chapter in the *VCCS Master Plan* because enrollment information and assessments are crucially important to the overall management of the System and each college. While each of the *Plan's* chapters requires a specific kind of enrollment assessment, a master plan needs a single perspective on enrollment issues and planned outcomes. In this chapter a unified perspective regarding the System's enrollment plan is presented, mainly, as two outcomes: a major enrollment recommendation and a set of enrollment projections.

This chapter is organized in sections as follows: (1) VCCS Enrollment Function, Goals, and Objectives; (2) Definitions; (3) Trends of the 1970s and Early 1980s; (4) Factors Influencing Current and Projected Enrollments; (5) Effects of Population Trends on Enrollment Demand: 1980-1990; (6) VCCS Enrollment Projections; and (7) Recommendation.

VCCS ENROLLMENT FUNCTION, GOALS, AND OBJECTIVES

The management of VCCS-college enrollments involves the maintenance of student data systems, computerized data files, and historic enrollment documents; the assessment of enrollment trends and factors which contribute to change in enrollment patterns; and the projection of VCCS-college enrollments for the Commonwealth's biennial planning and funding cycle.

The System's management of its enrollment planning activities is aligned to three goals:

- To develop VCCS enrollment projections based on quantitative planning and the priorities given to VCCS educational programs and services.
- To maintain enrollment data and related information adequate for all VCCS planning activities.
- To evaluate current and projected enrollments in terms of the VCCS mission, educational program goals, and operational goals.

Planning objectives which relate to the development of this chapter's enrollment perspective and outcomes are as follows:

- Define the types of enrollment data utilized by the System, other Virginia higher education institutions, and state agencies.
- Produce student data trends and profiles which characterize the System's enrollments during the 1970s and early 1980s.

- Provide student profile and other data regarding factors which do or will exert a critical influence on enrollments.

- Examine the relationship between the System's enrollment data and Virginia's historic and future population statistics.

- Project enrollments for the 1984-86 biennium using a resource supply and a student demand concept to determine the System's capability to meet the educational needs of Virginia's citizenry during the 1980s.

- Provide recommendations regarding the direction the System should take to prioritize its enrollments (according to student classification categories and educational programs), thereby giving shape to enrollment profiles.

DEFINITIONS

VCCS-college managers responsible for the delivery of educational services and the consumption of resources necessarily reference enrollments with different operational considerations and planning outcomes in mind. In several chapters of the *VCCS Master Plan*, these different requirements for enrollment information are evident in the ways enrollment data items are selected for display and assessment. Because there are several different types of enrollment analyses in the *Plan*, this chapter provides the reader with student classification definitions and enrollment definitions that are standard to Virginia's higher education institutions, and it serves to integrate the *Plan's* enrollment analyses by directing the reader to enrollment topics presented in other chapters.

Credit Student Classifications

All students taking courses for credit are classified Curricular Student or Non-Curricular Student. The *VCCS Policy Manual* definitions are as follows:

6.40 General Student Classifications (SB; HEW Regulations, Higher Education Act of 1965, P.L. 89-329)

6.401 Curricular Student

Students who have a high school diploma, a GED, or its equivalent, or are otherwise determined qualified for admission are designated curricular students when files in the Office of Admissions contain all of the information required for general admission to the college as curricular students and they have been admitted to one of the curricula of the college.

6.402 Non-Curricular Student previously known as Unclassified Student; i.e., prior to 6/76)

Students who are not formally admitted to one of the regular curricula or developmental studies but who are classified according to the following student goals or conditions."

Note: These student goals or conditions are (1) Upgrading Employment Skills for Present Job, (2) Developing Skills for New Job, (3) Career Exploration, (4) Personal Satisfaction and General Knowledge, (5) Transient Student, (6) Non-degree Transfer Student, (7) High School Student, (8) General or Curricular Requirements Pending, (9) Restricted Enrollment, and (10) Auditing a Course. Refer to *VCCS Policy Manual*, Section 6.402.

As seen above, credit student classifications may be viewed as Curricular Student or Non-Curricular Student. Another approach to classifying credit students is to think of each of them as belonging to one of four classifications so that students are sorted into either one of three curricular classifications or the non-curricular classification. Again, the *VCCS Policy Manual* is quoted.

6.43 Student Classifications

6.430 Developmental Studies Student (SCHEV)

A developmental studies student is one who is enrolled in developmental courses preparatory for admission to an occupational/technical or college transfer program and has been coded as a developmental student.

6.431 Student for Bachelor's Credit - Lower Level (SCHEV)

A student for bachelor's credit (lower level is an undergraduate student enrolled in a two-year college transfer program who has not yet completed his sophomore year.

6.432 Occupational/Technical Student (SCHEV)

An occupational/technical student is a lower level undergraduate student enrolled in a post-secondary certificate, diploma, or associate degree program which prepares for immediate employment or provides general education.

6.433 Non-Curricular Student (SCHEV)

Refer to Sub-paragraph 6.402 which describes this category in detail.

The classification of students as Developmental, Bachelor's Credit, Occupational/Technical or Non-Curricular has application for Virginia college and university enrollment reporting and the projecting of enrollments. This scheme for classifying students is utilized in this chapter, and it is of prime importance in the *Plan's* chapter on Educational Programs.

Studies on the status of developmental education in the Virginia community colleges have documented the fact that the classification Developmental Student is one which is applied at the discretion of college administrators. Accordingly, several VCCS colleges do not use the classification at all. To attain a true indication of the number of community college students taking developmental coursework, a count is made of the number of students (unduplicated headcount) enrolled in courses numbered 01-09 which are those designated as developmental level instruction.

Student Enrollment Definitions

The System, in its efforts to quantify enrollments, relies on standard headcount (HC) and full-time equivalent student (FTES) enrollment definitions. The System's policies regarding student enrollment definitions are presented in Figure 1. Headcount definitions depend on the count of individual students enrolled in a given time period, i.e., in a quarter or the whole year. Full-time equivalent student enrollment is a funding-related statistic which for a quarter divides the total student credit hours generated by 15, and for the year divides the total annual (4 quarters) number of credit hours by 45. This last statistical item is called Annual FTES, and it is used by the legislature in preparing and funding Virginia higher education institutions' budgets.

TRENDS OF THE 1970s AND EARLY 1980s

The Virginia community colleges experienced continued growth in enrollments during the 1970s and early 1980s. This section presents trends regarding VCCS headcount, FTES, and student characteristics.

Student Headcount Trends

Student fall headcount and annual unduplicated headcount are shown, below, for the initial year in each biennia from 1970-72 to 1980-81.

Year	Fall Headcount	Annual Unduplicated Headcount
1970-71	27,938	39,765
1972-73	42,308	66,199
1974-75	66,745	110,129
1976-77	85,464	138,312
1978-79	99,681	167,007
1980-81	110,129	187,746

FIGURE 1
STUDENT ENROLLMENT DEFINITIONS

The following enrollment definitions are required for VCCS enrollment reporting and planning.

Headcounts

Student Headcount (6.423)*

Student headcount is defined as the count of individual students enrolled during the same quarter in one or more credit courses.

Annual Unduplicated Student Headcount (6.424)*

Annual unduplicated student headcount is defined as the summation of different students enrolled during the summer, fall, winter, and spring quarters which comprise the academic year. In this statistic, a student is counted only one time regardless of the quarters enrolled in or the credit hour load.

Full-Time Equivalent Students (FTES)

Quarter Full-time Equivalent Student (6.426)*

The Quarter FTES is obtained by summing the on-campus and off-campus student credit hours and dividing by 15.

Annual Full-time Equivalent (FTE) Student (SCHEV) (6.422)*

FTE is a statistic derived from the student-credit-hour productivity of an institution. The equivalent number of students is derived by dividing the total annual (4 quarters) number of student quarter credit hours by 45.

Regular Session Full-time Equivalent Student (6.425)*

The Regular Session FTES is obtained by summing the fall, winter, and spring on-campus student credit hours and dividing by 45.

*Refer to the VCCS Policy Manual, Section 6.

- These data show that from the fall, 1970 to fall, 1978, headcount enrollments grew from 27,938 to 110,129, representing an increase of 294 percent.

- Annual unduplicated headcount from 1970-71 to 1980-81 increased by 372 percent, showing gains from 39,765 to 187,746.

Fall headcount in 1981 rose to 114,082 and annual unduplicated headcount for the 1981-82 year again increased to 193,279.

Refer to Table I for historic fall and annual headcount data with the System's ratios used in enrollment analyses.

FTES Trends

The System's fall FTES and annual FTES are presented below for seven years, 1970-71 to 1980-81.

Year	Fall FTES	Annual FTES
1970-71	20,895	20,383
1972-73	28,585	29,113
1974-75	39,438	42,586
1976-77	48,767	50,798
1978-79	52,086	52,877
1980-81	57,968	59,144

- These data indicate a growth of fall FTES from 20,895 to 57,968 for a 177 percent increase.

- From 1970-71 to 1980-81 annual FTES increased by 190 percent from 20,383 to 59,144.

Fall, 1981 FTES increased to 59,511, a growth of 2.7 percent over the 1980 FTES figure. Annual FTES for 1981-82 also moved upward by 3.9 percent to 61,428.

Refer to Table II for historic FTES data and ratios used for enrollment assessments.

VCCS Student Characteristics

Student characteristics take into account data based on student enrollment descriptors like the following:

Status

Full-time or Part-time
Day or Evening
On-Campus or Off-Campus
First-Time, Transfer or Returning

TABLE I
VCCS ENROLLMENT HISTORY
1966 - 1981

Year	Fall Headcount	Fall FTES[a]	Fall FTES/ Headcount Ratio	Annual Unduplicated Headcount	Annual FTES	Annual FTES/ Unduplicated Headcount Ratio
1966-67	5,749	2,412	.42	7,573	2,092	.28
1967-68	10,380	7,456	.72	12,370	7,174	.58
1968-69	16,770	12,602	.75	22,797	12,120	.53
1969-70	22,011	16,655	.76	30,341	15,717	.52
1970-71	27,938	20,895	.75	39,765	20,383	.51
1971-72	35,544	25,729	.72	52,143	25,066	.48
1972-73	42,308	28,585	.68	66,199	29,113	.44
1973-74	53,523	34,162	.64	83,347	34,784	.42
1974-75	66,745	39,438	.59	110,129	42,586	.39
1975-76	86,810	51,011	.59	134,839	52,653	.39
1976-77	85,464	48,767	.57	138,312	50,798	.37
1977-78	94,306	51,631	.55	154,490	52,323	.34
1978-79	99,681	52,086	.52	167,007	52,877	.32
1979-80	103,839	53,379	.51	180,070	55,360	.31
1980-81	110,129	57,968	.53	187,746	59,144	.32
1981-82	114,082	59,510	.52	193,279	61,428	.32

[a] Fall quarter data were taken from VCCS Mid-Quarter enrollment files; therefore, FTES will vary somewhat from the End-of-Quarter reports.

TABLE II

VCCS STUDENT CHARACTERSITICS
Fall Quarter, 1981[a]

Characteristic	Number	Percent
STATUS		
Full-Time	34,934	30.6
Part-Time	79,148	69.4
Day	72,037	63.1
Evening	42,045	36.9
On-Campus	107,420	94.2
Off-Campus	6,662	5.8
First-Time	33,267	29.2
Transfer	9,367	8.2
Returning	71,448	62.6
Occupational-Technical	36,923	32.4
College Transfer	16,564	14.5
Non-curricular	55,803	48.9
Developmental	4,792	4.2
CHARACTERISTICS		
Male	50,754	44.5
Female	63,328	55.5
White	94,259	82.6
Black	14,626	12.8
Other	5,197	4.6
In-State	108,852	95.4
Out-of-State	5,230	4.6
AGE		
18-21	34,729	30.4
22-24	15,313	13.4
25-34	36,629	32.1
35-44	16,691	14.6
45+	9,075	8.0
<18/Unknown	1,645	1.4
TOTAL HEADCOUNT	114,082	100.0
FTES	59,510	

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[a] Fall quarter data were taken from VCCS Mid-Quarter enrollment files; therefore, FTES will vary somewhat from the End-of-Quarter reports.

Characteristics

Male or Female
White, Black or Other
In-State or Out-of-State

Age

Age categories from less than 18
to greater than 65.

The following summary statements are based on VCCS student characteristics data shown in Table II and other data records.

- Fall, 1981 VCCS headcount enrollment totaled 114,082. Thirty-one percent of these students were enrolled full-time. Fall quarter full-time enrollments have, since 1977, ranged between 30 and 33 percent.

- Fall quarter enrollments for 1977 and 1981 show the trends for students in the four major program areas.

Student Headcount

	1977		1981	
Program Areas	N	%	N	%
Occupational-Technical	31,058	33	36,923	32
College Transfer	13,565	14	16,564	15
Non-Curricular	44,765	47	55,803	49
Developmental	4,918	5	4,792	4

- The proportion of females has increased from 40 percent in 1972 to 56 percent in 1981.

- The proportion of black students has increased from 9 percent in 1972 to 13 percent in 1981.

- The number and proportion of enrollment by age categories for fall quarters 1977 and 1981 are shown as follows:

	1977		1981	
Age Category	N	%	N	%
Under 18	2,225	2	1,645	1
18 - 21	29,496	31	34,729	30
22 - 24	13,480	14	15,313	13
25 - 34	30,385	32	36,629	32
35 - 44	11,381	12	16,691	15
45 - 59	6,646	7	8,197	7
60 and Over	693	1	878	1

Additional enrollment trend and profile information are available in the other sections of this chapter and elsewhere in the *Plan*.

FACTORS INFLUENCING CURRENT AND PROJECTED ENROLLMENTS

The System's monitoring and projection of credit student enrollments requires understanding that the emphasis on parts of the VCCS mission may be explained quantitatively by the System's enrollment patterns in occupational/technical, college transfer, unclassified and developmental programs and related courses. Enrollments in these mission-related program areas are influenced by such factors as student educational objectives, societal goals and movements, and the State Legislature's interpretation of the Commonwealth's priorities for higher education program offerings. Another set of factors influencing enrollments in Virginia community college academic program and course offerings pertains to the general economy, the Commonwealth's overall funding priorities, and federal and state financial support for students.

This section of the *Plan* sets forth a VCCS historic, data-based, and future-directions perspective on enrollments as influenced by the factors cited above. The section is organized in two parts: (1) VCCS Mission: Meeting Virginians' Educational Needs and Goals, and (2) The Economy and Financial Support for Students.

VCCS Mission: Meeting Virginians' Educational Needs and Goals

Background information and planning for occupational/technical and college transfer programs during the 1984-86 biennium and beyond are set forth in the chapter on educational programs. Factors influencing enrollments for the other program areas of the VCCS Mission are accordingly treated under the captions: Credit Students--Unclassified; Developmental Students; and Affirmative Action Statement.

- Credit Students: Unclassified

  As noted in this chapter's section on "Definitions," the Virginia community colleges, each quarter, enroll credit students who are not directly placed in curricular programs. There are educational and administrative reasons for enrolling students and placing them in an unclassified category.[1] For example, students have a variety of immediate as well as long-range educational objectives. Administrators usually do not want to program place students who have not come to a clear decision about educational goals and a long term commitment that pursuing a program requires. There are also problems, administratively, with efforts to program place late registrants who enroll at some colleges in large numbers. For these and many other reasons, a sizeable portion of each quarter's enrollment is composed of students in the non-curricular or unclassified category. Since registering students in the unclassified category has occasionally brought criticism on the System and colleges, it is important for the *Plan* that the history and prospects be considered for classifying VCCS students who are not program placed.

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[1] The term "unclassified student" is a designation developed and implemented by the State Council of Higher Education for Virginia (SCHEV) to apply to students who are not enrolled in programs which are categorized as Foundation, Occupational/Technical, Bachelor's Credit, First Professional, and Graduate.

Historical perspective. Prior to fall, 1976, students in the System, who were not enrolled in a curriculum or developmental studies program, were categorized as "unclassified students." The *VCCS Policy Manual* indicated that the unclassified category included part-time students auditing a course or taking courses without enrolling in an educational program, students fulfilling requirements prior to enrolling in an educational program, students fulfilling requirements prior to enrolling in a program, and high school students taking college courses. As a result of this classification system, a significant proportion of students enrolled in VCCS were designated as unclassified students.

In 1974, studies were conducted on the student classification system to assess the accuracy of the student registration data.[2] The results of the studies indicated wide variation between VCCS curricular designations and the students' expressed educational choices. In addition, the studies expressed concerns about the lack of specificity in the Student Classification System, since it did not describe unclassified students by their educational objectives.

As a result of these studies, a VCCS task group was convened (1) to develop for unclassified students a set of non-curricular (unclassified) categories with accompanying educational goal statements and data processing codes and (2) to design a procedure to have non-curricular students select appropriate goal oriented classifications when they register in the community colleges. In the document ***A Proposal for an Expanded VCCS Classification System***, the task group members identified ten non-curricular student categories, and they recommended ways whereby the VCCS could modify its policy statements on student classification and change its student registration procedures in order to implement the new non-curricular student classifications. The "Definitions" section lists the ten non-curricular (unclassified) categories. These were implemented by the colleges as of the fall, 1976.

Profile of unclassified students. The classification system, whereby the colleges are to obtain the educational goals for unclassified students taking courses for credit, has become ineffective mainly because college enrollments at several colleges have increased substantially and the time-compressed registration process does not allow many students or VCCS administrators of registrations the time to identify properly the goals of unclassified students. Accordingly, the fall, 1981 profile information, below, is based not on student goals but on actual unclassified student enrollments in VCCS courses. Also, refer to Table III.

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[2] A review of VCCS policies and practices was conducted by the Joint Legislative and Audit Review Commission (**JLARC**) in addition to data analyses by VCCS personnel.

TABLE III

UNCLASSIFIED STUDENTS AS PERCENT OF TOTAL HEADCOUNTS AND UNCLASSIFIED FTES WITH PERCENT DISTRIBUTED BY COURSE LEVEL: DEVELOPMENTAL, OCCUPATIONAL TECHNICAL, AND BACHELOR'S CREDIT*

FALL, 1981 (END-OF-QUARTER)

COLLEGE	UNCLASSIFIED STUDENT HEADCOUNT	UNCLASSIFIED STUDENTS AS % OF TOTAL STUDENTS	TOTAL UNCLASS. FTES	PERCENT OF UNCLASSIFIED FTES-DISTRIBUTED TO DEVL	O/T	B/C*
BLUE RIDGE	1089	49	349	5	55	40
CENTRAL VIRGINIA	1672	41	545	6	55	39
DABNEY S. LANCASTER	419	35	90	7	57	35
DANVILLE	846	33	270	8	57	35
EASTERN SHORE	231	53	55	1	67	32
GERMANNA	684	44	183	5	64	31
J. SARGEANT REYNOLDS	4902	48	1662	13	55	32
JOHN TYLER	2365	54	874	25	42	33
LORD FAIRFAX	880	45	248	2	55	42
MOUNTAIN EMPRIE	2008	67	396	1	90	10
NEW RIVER	1317	44	368	11	50	39
NORTHERN VIRGINIA	24241	69	11098	12	40	47
PATRICK HENRY	425	29	122	14	44	42
PAUL D. CAMP	286	27	83	8	63	30
PIEDMONT VIRGINIA	1469	40	405	4	63	33
RAPPAHANNOCK	648	49	186	6	55	38
SOUTHSIDE VIRGINIA	883	53	229	7	56	37
SOUTHWEST VIRGINIA	658	17	185	5	53	42
THOMAS NELSON	1912	29	588	16	47	37
TIDEWATER	5520	34	2344	18	40	41
VIRGINIA HIGHLANDS	377	27	98	1	59	41
VIRGINIA WESTERN	2209	36	583	4	58	38
WYTHEVILLE	778	41	198	4	74	22
VCCS	55819	48	21177	12	46	42

DISTRIBUTION OF VCCS AND COLLEGE FTES IS ACCOMPLISHED AS FOLLOWS:

- * DEVELOPMENTAL BY - COURSE NUMBERS 01-09 REGARDLESS OF HEGIS CODE.
- * OCCUPATIONAL/TECHNICAL BY - HEGIS CODE COURSE PREFIXES 5000 AND GREATER.
- * BACHELOR'S/CREDIT BY - HEGIS CODE PREFIXES LESS THAN 5000.

- Fall, 1981 VCCS headcount for unclassified students was 55,819. This end-of-quarter enrollment headcount represented 48 percent of the total fall, 1981 headcount.

- Fall, 1981 FTES generated by unclassified students was 21,177 or 35.4 percent of the total fall, end-of-quarter FTES.

- Fall, 1981 FTES for unclassified students was distributed by course identification as follows: 12 percent to developmental, 46 percent to occupational/technical and 42 percent to college transfer.

- Eighty-five percent of unclassified students were enrolled part-time in the fall, 1981.

- Females numbered 32,465 and represented 58 percent of fall, 1981 unclassified students.

- Sixty-one percent of all unclassified credit students enrolled in the fall, 1981 (End-of-Quarter), were 25 years of age or older.

Age Group	N	PCT
Under 18	1,240	2
18 - 21	13,024	23
22 - 24	7,141	13
25 - 34	18,454	33
35 - 44	9,927	18
45 - 59	5,291	9
60 & over	742	1
	55,819	99

For comparison, students who were age 25 or older represented 52 percent for occupational/technical and 33 percent for college transfer.

Prospects for unclassified enrollments. Because Virginians will continue to enroll as part-time students and take credit courses that satisfy immediate job-related and personal knowledge goals, the need for the Virginia community colleges to provide the citizenry with education on a course-by-course basis will persist during the 1980s. Creating a classification system which identifies registering students as occupational/technical, college transfer, or developmental is a step the System needs to take in the near future.

- Developmental Students

Another factor which is critical to the continuation of Virginians' education and training opportunities is the community colleges' developmental education programs and coursework. As noted in the "Definitions" section of this chapter, a developmental student is one who is enrolled in developmental courses preparatory for admission to an occupational-technical or college transfer program. Evidence of the System's commitment to developmental education is seen in the fact that the State Board for Community Colleges emphasized the importance of developmental education by treating it as an integral part of the VCCS Mission.

Enrollment profile. The System's enrollment records indicate that a goodly number of Virginians take developmental coursework in order to enter or continue regular program studies at the community colleges. Tables IV and V show headcount and FTES enrollment data, providing the sex, race, and age characteristics of students enrolled in VCCS developmental courses (01-09) for the years 1977 and 1981. The following statements summarize the data displayed in the tables.

- Students (unduplicated headcount) enrolled in developmental courses (01-09) numbered 13351 or 14.2 percent of the total VCCS headcount for fall, 1977. The number of students enrolled during the fall, 1981 in developmental courses was 16872 (Mid-Quarter), or 14.8 percent of the quarter's VCCS total headcount.

- Fall headcount (duplicated) enrollments in developmental courses (01-09) show that the great majority of students are enrolled in the disciplines of English and mathematics. English accounted for 40 percent and mathematics, for 55 percent of the total fall headcount (duplicated) in developmental courses. These percentages for developmental English and mathematics headcount apply (with little variation) to fall enrollments for 1977 and 1981.

- Unduplicated headcount enrollments in developmental courses are evenly divided between males and females during the fall quarters of 1977 and 1981.

- The percentages by race for fall, 1977 developmental enrollments (unduplicated headcount) were 64.7 for whites, 30 for blacks, and 5.3 for other racial sub-groups. The percentages changed in 1981 to 68.4 for whites 23.1 for blacks and 8.5 for other.

Enrollments in community college developmental coursework are indicative of at least two things. First, a sizeable proportion of Virginians who seek the benefits of higher education are not academically ready to participate successfully in regular program coursework. Second, in keeping with the VCCS mission, the colleges have utilized, each year, a considerable portion of the System's resources in efforts to remediate student's learning deficiencies, mainly in English and mathematics.

TABLE IV

UNDUPLICATED DEVELOPMENTAL STUDENTS (01-09 COURSES)
TABLES ON SEX, RACE, AND AGE FOR 1977 AND 1981[a]

SEX AND RACE		FALL 1977		FALL 1981	
		N	%	N	%
MALES	WHITE	4,650	34.8	5,943	34.9
	BLACK	1,694	12.7	1,681	9.9
	OTHER	387	2.9	827	4.9
FEMALES	WHITE	3,983	29.8	5,677	33.4
	BLACK	2,310	17.3	2,245	13.2
	OTHER	327	2.5	622	3.7
	TOTALS	13,351	100	16,995	100
SEX	MALES	6,731	50.4	8,451	49.7
	FEMALES	6,620	49.6	8,544	50.3
	TOTALS	13,351	100	16,995	100
RACE	WHITE	8,633	64.7	11,620	68.4
	BLACK	4,004	30.0	3,926	23.1
	OTHER	714	5.3	1,449	8.5
	TOTALS	13,351	100	16,995	100

AGE	FALL 1977		FALL 1981	
	N	%	N	%
UNDER 17	341	2.6	239	1.4
18-21	6,490	48.6	8,742	51.4
22-24	1,860	13.9	2,161	12.7
25-34	3,172	23.8	3,909	23.0
35-44	1,018	7.6	1,390	8.2
45-59	449	3.3	529	3.1
OVER 60	21	.2	25	.2
TOTALS	13,351	100	16,995	100

[a] FALL 1981 UNDUPLICATED HEADCOUNT DATA FOR DEVELOPMENTAL STUDENTS ARE DERIVED FROM END-OF-QUARTER ENROLLMENT FILES.

TABLE V

FALL QUARTER DEVELOPMENTAL STUDENT DATA

1977-1981

Fall Headcount[a]	Fall '77	Fall '78	Fall '79	Fall '80	Fall '81
Total VCCS Headcount	94,306	99,681	103,839	110,129	114,082
Number Developmental	13,351	13,222	14,517	16,305	16,372
Percent Developmental	14.2%	13.3%	14.0%	14.8%	14.8%
Fall FTES[b]					
Total VCCS FTES	51,631	52,086	53,379	57,968	59,856
FTES Developmental	5,231	5,369	5,918	6,758	6,823
Percent Developmental	10.1%	10.3%	11.1%	11.7%	11.4%

Fall Enrollment (Duplicated) in Developmental Courses (01-09)[c]	1977		1981	
	N	%	N	%
Biology	167	1	250	1
Chemistry	608	3	558	2
English	7,048	39.5	9.129	40
Mathematics	9,725	55	12,786	55
All Others	268	1.5	349	2
Total	17,816	100	23,072	100
Fall FTES in Developmental Courses (01-09)[d]				
Biology	53	1	63	.5
Chemistry	187	4	177	3
English	2,110	40	2,810	41
Mathematics	2,826	54	3,724	54.5
All Others	55	1	47	.5
Total	5,231	100	6,821	100

[a] FALL MID-QUARTER HEADCOUNT ARE UNDUPLICATED AS A TOTAL, SHOWING THE NUMBER AND PERCENT OF UNDUPLICATED STUDENTS IN DEVELOPMENTAL COURSES 01-09.

[b] END-OF-QUARTER FALL FTES FOR DEVELOPMENTAL STUDENTS IN COURSES 01-09 ARE SHOWN AS A NUMBER AND THEN AS A PERCENT OF TOTAL FALL FTES.

[c] FALL QUARTER HEADCOUNT ARE DUPLICATED ENROLLMENTS IN VCCS DISCIPLINES. FALL 1981 DATA ARE FROM END-OF-QUARTER FILES.

[d] FALL FTES FOR 1981 ARE DERIVED FROM END-OF-QUARTER FILES.

The future direction of VCCS developmental education. Recently, Virginia's elected officials and many citizens have raised questions about the appropriateness of having extensive remedial programs maintained at Virginia public higher education institutions. Their questions may be phrased as follows:

- Should the Commonwealth pay "twice" to educate students who have left the public schools without acquiring the basic skills needed to succeed in regular higher education programs?
- Should one or several of the Commonwealth's educational environments maintain developmental programs--assuming the environments to be the public schools, the community colleges, and the four-year colleges and universities?
- Are developmental studies programs, as they have existed in Virginia's colleges and universities, conducted so as to remediate students' educational deficiencies in a cost efficient manner?

The public's questions deal, in part, with educational and resource decisions which are in the domain of the Governor and the State Legislature. The public's concerns also touch on matters pertaining to the VCCS Mission. The System responds to these public concerns by making the following statement regarding the *Plan's* emphasis on developmental education in the future.

- ***During the decade of the 1980s and beyond, the System intends to carry out its Mission regarding the offering of developmental education to students who need remedial coursework in order to succeed in the Virginia Community Colleges' regular programs.***

As the debate on the place and need for developmental programs in Virginia's educational environments continues, the System asks that Commonwealth officials consider two concerns.

- Current public discussion involves the idea of improving public schools pupils' levels of educational attainment to the point where fewer and fewer adults will require developmental studies in two-year and four-year higher education institutions. As such discussions proceed, every consideration should be given to human and societal factors which in past years led Virginia and other states to place developmental programs in higher education institutions. These factors are (1) the greater number of students progressing through the public schools and subsequently entering higher education with needs for remedial coursework; (2) changes in the workplace which have caused a greater number of older adults to seek college and university education related to job improvement or new job training and; (3) the fulfillment of society's "open-door" and "equal opportunity" goals as evidenced by large numbers of minority, female, and so-called disadvantaged students participating in higher education.

- The idea of decreasing or removing developmental education from Virginia's college and universities should be weighed not just by the short term saving in resources but by the long term economic gains of having Virginia's adults receive the education they need to perform adequately in the work place or acquire the academic skills needed for the more advanced learning related to four-year institutions high technology, business, and other programs readying students for the professions.

Since the community colleges have been each year the source of remediation for thousands of Virginia's adults who need to acquire basic learning competencies, there could be no surer way of denying educational opportunity to a substantial part of the adult population than to deprive them of the developmental education now available at the Virginia community colleges and selected four-year colleges and universities.

SCHEV and VCCS assessments of developmental education. The early 1980s have been years when Virginia's elected officials and the general citizenry have questioned the cost and effectiveness of educating students who are deficient in basic mathematics and English skills when they enter higher education. The State Council of Higher Education for Virginia has responded to such concerns about remedial education by taking two actions. First, during January, 1981, the State Council published the paper, Developmental Education in Virginia, which contained the following recommendations:

> "The Virginia Community College System should develop a single systemwide evaluation procedure for developmental education. This procedure should enable the System to measure the relative success of different methods of remediation by using common standards of measurement and reporting. The Virginia Community College System procedure should be developed in consultation with senior institutions, and it should be usable by all state-supported institutions of higher education which offer developmental assistance to their students. The procedure should be developed before preparation of the 1984-86 biennium budget requests.
>
> Institutions offering developmental assistance to their students should include in their 1984-86 budget submissions interim plans for evaluating these activities. Institutions planning to offer developmental assistance in the 1984-86 biennium should include in their budget submissions plans to evaluate their activities using the evaluation procedures recommended in the first recommendation."

Second, the State Council convened on September 23, 1982, a Task Force on Remedial Education. This task force has the charge of creating an evaluation procedure which Virginia's two-year and four-year institutions should follow to conduct self-studies on remedial programs and courses.

The System, in response to the State Council's remedial education recommendations (January, 1981), has conducted a study of developmental education in the Virginia Community Colleges. This study was designed to (1) define the current status of developmental education in the VCCS; (2) determine the procedures for evaluation of developmental education in the VCCS; and (3) report by December, 1982, on the study's outcomes--the evaluation criteria and procedures that represent the VCCS Model for evaluating developmental studies, programs and courses. While this final report has not been completed, the VCCS Task Force on Developmental Education, has prepared especially for the SCHEV Task Force, a preliminary report on Remedial Education. Their report is entitled "Issues on Developmental Education in Virginia Community Colleges" (September, 1982). The report explains how the operation of the colleges' developmental programs and courses has generated issues concerning (1) the effectiveness of different approaches colleges take in organizing developmental programs and courses; (2) the appropriateness and accuracy of procedures used to test, counsel, and place students in developmental courses; (3) the achievement of good articulation between developmental courses and the courses of a college's regular curricula; (4) the instructional effectiveness of a college's full-time and/or part-time faculty mix; (5) the evaluation of faculty in terms of their having adequate preparation to teach developmental studies; and (6) the accuracy of grading procedures and of methods used to track and evaluate developmental student achievement as students continue their regular academic program coursework.

The System plans to complete the final report on the study noted above, and it will continue to evaluate developmental programs regarding the efficiency of their operations and the quality of educational outcomes.

- Affirmative Action

Another critical factor to those who manage or assess Virginia community college enrollment patterns is the achievement of the System's ***Master Plan*** affirmative action goal: "To provide equal employment and equal educational opportunities to all." The State Board for Community Colleges has continuously endorsed an open admissions policy and a commitment to provide educational services to all segments of Virginia's citizenry. The System of 23 regionally placed community colleges has been successful in cutting across the traditional higher education enrollment barriers pertaining to race, sex, socio-economic status, and physical handicaps. The community colleges have enrolled minorities, females, economically disadvantaged, and the physically handicapped in substantial numbers.

Historically, enrollment data indicate a headcount growth in VCCS educational services to females and all minorities. The headcount (on and off-campus) by race and sex are shown below as a number and percent of fall quarter enrollments for 1977 and 1981.

Sex and Race		Fall 1977		Fall 1981*	
		N	%	N	%
Males	White	36878	39.1	42717	37.1
	Black	6021	6.4	5901	5.1
	Other	1720	1.8	2784	2.4
Females	White	40404	42.9	52482	45.6
	Black	7760	8.2	8902	7.7
	Other	1523	1.6	2455	2.1
		94306	100	115241	100

*End of quarter VCCS headcount, Fall 1981.

Total black enrollment for fall 1977 was 13,781 or 14.6 percent of total VCCS headcount. Fall, 1981 black enrollment showed a headcount of 14,803 or 12.9 percent of total VCCS enrollment. Total minority enrollment which includes black and other groups was 17,024 or 18 percent in the Fall, 1977; and total minority enrollment was 20,042 or 17.4 percent in the Fall, 1981.

In the Fall, 1976, female headcount enrollments equalled male enrollments for the first time. From 1977 through 1981, the proportion of females in the total VCCS Fall headcount enrollments grew from 53% to 57%.

The conditions which have attracted non-traditional students to the Virginia colleges in large numbers are the comprehensive programs and courses described in the *Plan*, the moderately low tuition, the accessibility of the colleges to the communities being served, and the availability of financial aid or remedial assistance for students who require such assistance.

Although the System has been quite successful in its attempts to enroll minorities, females, and other students who may be considered as non-traditional, the 1980s may be years when fewer federal and state resources are channeled to higher education. It is important, therefore, that the State Board for Community Colleges' commitment to its affirmative action program carry with it the intention to enroll minorities, females, and other non-traditional students in increasing numbers and/or proportions.

While at the time this *Plan* is written, the System has no numeric affirmative action goals for enrollments, the following action statements indicate the System's position on conditions that affect its affirmative action goal as it pertains to college enrollments.

1. Maintain the open-door admission policy for all 23 community colleges, thereby making educational services accessible to all segments of the citizenry within the Commonwealth.
2. Maintain tuition rates and associated instructional student costs as low as possible.
3. Insure that occupational-technical programs maintain industrial-business standards, combined with accessibility for women and minority students, so that graduates will have essential skills to be competitive in the labor market.
4. Implement special programs to attract and retain women and minority students in occupational-technical programs that have not traditionally attracted these students.
5. Maintain academic support (remedial) programs for all students who could benefit from such programs.
6. Reaffirm the admissions statement that allows for the enrollment of any citizen of the Commonwealth who can benefit from attendance.

The Economy and Financial Support for Students

The System's enrollments in the various academic programs and course offerings are influenced by economic conditions in the nation and the Commonwealth and by the financial support available to students desiring education and/or training. This subsection, therefore, expresses concerns about the general economy and the availability of financial aid to VCCS students during the 1980s.

- General Economy

  The System, along with other Virginia higher education institutions, is currently experiencing continued and/or growing demands for educational services while proportionately fewer resources are available to defray rising costs. The impact of the general economy on past and future enrollments is presented in relation to the topics: (1) enrollment and employment and (2) enrollment and tuition.

  Enrollment and employment. Business-industry education needs and the economic well-being of the citizenry are known to influence VCCS enrollments. The System and the colleges have routinely studied the communities' needs for various occupational-technical and college transfer programs. Refer to the chapter on VCCS educational programs for statewide manpower analysis. The employment rate has also been studied because variations in local and/or statewide employment rates appear to be related to System-college enrollment fluctuations.

Expenditures by businesses and industries are affected by the unemployment rate and also affect the unemployment rate. Unemployment rates are higher now than they have been in several years and are expected to remain well above the average of the past decade for several years. It is felt that high unemployment rates have reduced college enrollments and expected continued high unemployment rates will keep higher education enrollments lower in the next several years than would normally be expected.

However, this is not the situation for the Virginia Community College System (VCCS). Enrollments in the Virginia Community College System, with its open-door policy and low tuition rates, are related to the economy, but not in a direct positive relationship. Stewart and Avery (1978) confirm this relationship.

> "The expected relationship is the hypothesized result of a number of different interactions. First, high unemployment rates are expected to reduce full-time enrollment at private colleges because the families of college students cannot afford to send them there. Second, high unemployment rates will result in increased transfer of students from private to public colleges because tuition is much lower in public colleges. Third, high unemployment rates will result in transfer from colleges away from home to colleges at home because it is cheaper to commute than to live away from home. Fourth, high unemployment rates will increase full-time college enrollment because students have lost their jobs or cannot find a job or think that it is a poor time to look for a job. This increase will be predominately at public colleges within commuting distance from the student's home. Whereas, the first three effects refer to adult unemployment, the fourth refers to college-age unemployment."[1]

Thus it is expected that the enrollment levels of the VCCS schools would tend to increase as the economy continues to be depressed since the community colleges in Virginia are public institutions located generally within reasonable driving distances for all citizens.

Stewart and Avery found that there was a positive relation between changes in unemployment and in total enrollment. Full-time enrollment at public colleges was significantly affected by changes in unemployment rates and college enrollment appeared to be a substitute for employment, particularly for males. The table below confirms the basic fact that as the unemployment level rises, so does enrollment within the Virginia Community College System.

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[1] Stewart, Charles T., Jr. "College Enrollment in Response to Fluctuations in Unemployment and Income," College and University, Spring 1978, pp. 301-313.

TABLE VI

Enrollment in the VCCS and Unemployment Rates

	Fall Headcount		Annual FTES		Unemployment Rate	
Year	No.	Percent Increase Over Previous Year	No.	Percent Increase Over Previous Year	Percent	Percent Increase Over Previous Year
1973-74	53,523	26.5	34,784	19.5	3.6	----
1974-75	66,745	24.7	42,586	22.4	4.5	25.0
1975-76	86,810	30.1	52,653	23.6	6.4	42.2
1976-77	85,464	(1.6)	50,798	(3.5)	5.9	(7.8)
1977-78	94,306	10.3	52,323	3.0	5.3	(10.2)
1978-79	99,681	5.3	52,877	1.1	5.4	1.9
1979-80	103,839	4.2	55,360	4.7	4.7**	(9.3)
1980-81	110,129	6.1	59,144	6.8	5.1**	8.5
1981-82	114,082	3.6	61,428	3.9	5.6**	9.8

* Source: Virginia Employment Commission
Annual averages coinciding with fall quarter; e.g., 1974 Unemployment rate appears with fall quarter 1974 enrollment data.
**Eleven-month averages

As seen in the above table, the largest percentage increases in fall quarter headcount and annual full-time equivalent students occurred in the same year, 1975-76, as the highest unemployment rate (6.4 percent) and highest percentage unemployment rate increase (42.2 percent) over the previous year. Obviously, not all of the above increases/decreases in headcount and full-time equivalent students can be directly attributable to increases/decreases in the unemployment rate.

All of the above discussion deals with those factors as to their affect on enrollment as it applies to the economy. At the same time, however, as the economy continues to be depressed, other factors creep in which affect the community college's ability to meet these demands. There have been budgetary cutbacks which hamper the colleges' capability to provide programs and services. If the economy continues its recessionary state, tuition increases are inevitable and these will have an adverse effect on a student's ability to attend, especially if that student has been unemployed for a considerable period of time. If the economy remains in its present condition, state and federal sponsored aid programs may be fewer in number, and impact negatively student enrollments.

Enrollment and tuition. Table VII shows that the enrollment within the VCCS, both in terms of fall headcount and annual full-time equivalent students, has generally maintained a steady increase over the period 1970-71 to 1981-82 in spite of tuition increases. Since the 1970-71 academic year, there have been a total of five increases in the tuition rate (including the present 1982-83 year increase). The enrollments in the VCCS have increased each year during this period except for one (1976-77). During the 1976-77 year, the enrollment dropped for the first time ever (1.55 percent fall headcount decrease and 3.52 percent annual FTES decrease) while the in-state tuition increased 36 percent per credit and 33.3 percent for a full-time student. However, this decrease in enrollment cannot be totally linked to the tuition increase.

The year 1975-76 saw the VCCS fall headcount enrollment jump by the largest amount (20,065) and by the largest percentage (30.06) in its history. Some of this growth can be directly attributed to the newness of several of the community colleges. Much of this growth in the year 1975-76 can be linked to the high unemployment rate (6.4 percent of the work force compared to 4.5 percent in the previous 1974-75 year). Many of those people who became unemployed in 1975-76 turned to the VCCS to pursue other skills and to utilize veterans' benefits and financial aid. When the unemployment rate dropped in 1976-77 (5.4 percent of the work force), many of these unemployed went back to work and decided not to return to the VCCS because of work-school conflicts. Thus, a decline in enrollment was realized.

A better indicator of the relationship between enrollments and tuition increases is with the years after 1976-77. During that period, the newness of the VCCS schools was no longer a major factor in the enrollment growth, and higher unemployment rates have become more of the norm than the exception. For each of the years 1980-81 and 1981-82, the VCCS raised its tuition rates approximately 12-14 percent for in-state students, both in terms of rate per credit and rate per full-time student. Enrollments during these two years increased generally 4-6 percent, both in terms of headcount and annual FTES. This 4-6 percent enrollment growth was evident also for each of the years 1977-78 through 1979-80 when the tuition rates did not increase. Thus, moderate tuition rate increases tend to have a minimal effect on the enrollments within the VCCS.

At the same time that the System has increased its tuition rates, four-year colleges were raising theirs. Some of the VCCS enrollment losses due to VCCS tuition increases have probably been offset by students who have found it financially difficult to attend a four-year school and have decided instead to attend a college with its lower tuition rate. This two-year,

TABLE VII

VCCS Tuition and Enrollment By Year

Year	In-State Tuition				Total Enrollment			
	Rate Per Credit	Annual Percent Increase	Rate For Full-Time Student	Annual Percent Increase	Fall Headcount	Annual Percent Increase	Annual FTES	Annual Percent Increase
1970-71	5.00	-----	60.00	-----	27,938	-----	20,383	-----
1971-72	5.00	0.00	60.00	0.00	35,544	27.22	25,066	22.98
1972-73	6.25	25.00	75.00	25.00	42,308	19.03	29,113	16.15
1973-74	6.25	0.00	75.00	0.00	53,523	26.51	34,784	19.48
1974-75	6.25	0.00	75.00	0.00	66,745	24.70	42,586	22.43
1975-76	6.25	0.00	75.00	0.00	86,810	30.06	52,653	23.64
1976-77	8.50	36.00	100.00	33.33	85,464	(1.55)	50,798	(3.52)
1977-78	8.50	0.00	100.00	0.00	94,306	10.35	52,323	3.00
1978-79	8.50	0.00	100.00	0.00	99,681	5.70	52,877	1.06
1979-80	8.50	0.00	100.00	0.00	103,839	4.17	55,360	4.70
1980-81	9.50	11.76	114.00	14.00	110,129	6.06	59,144	6.84
1981-82	10.75	13.16	128.00	12.28	114,082	3.59	61,428	3.86
1982-83	15.50	44.19	186.00	45.31				

four-year relationship is difficult to measure, since not all four-year colleges have tuition increases each year and certainly not all increase by the same amount or percentage. It would appear theoretically, however, that any losses in VCCS enrollment due to increases in tuition would be partially offset by students coming to the VCCS from those institutions. It thus appears that the tuition rate increases in the VCCS have had a minimal effect on the enrollments.

- Student Financial Aid

Any effort to identify the relationship between enrollments in the Virginia Community College System and the number of financial aid recipients requires an understanding of the historical development of financial assistance programs and the creation of a perspective for what is likely to be the nature and magnitude of such programs and the composition of groups targeted for aid in the future. The following analysis is directed toward providing information to accomplish this effort.

Historical perspective. This country has a long history of public financial assistance to support the education of students in colleges and universities. For more than two hundred years tax revenues, primarily from state treasuries, have been used to subsidize higher eudcation through appropriations to cover major portions of the operating costs of postsecondary institutions. It was not until World War II, however, that a significant effort was undertaken to provide public assistance directly to college students. The G.I. Bill was the first federally funded student financial aid program. This federal assistance was not conditioned upon need, but rather upon a prior act of service to the country. Although expressly provided as a reward for individual contribution to America's effort in World War II, this legislation was viewed by many of its supporters in the broader social sense of equalizing opportunities and increasing the supply of educated and trained manpower to meet the changing needs of the nation.

Over the next three decades these two forms of societal benefits--an increased pool of trained manpower and equal or extended opportunity--became the clarion call of the advocates of student financial aid, with the skilled manpower rationale of the Sputnik era of the late 1950's giving way to the equality issue as time passed. "Universal higher education" and "equal access" became the watchwords for a society with aspirations to be open, unbiased, and democratic. The National Defense Education Act of 1958, provided financial assistance for the improvement of educational programs to support the country's defense posture and for the creation of curricula to deal with immediate manpower needs. The Act is also recognized as the first major effort on the federal level to achieve expanded educational opportunities through the provision of low-interest need-based loans to college students.

The federal government built upon this initial step to extend its commitment to higher education through the enactment of the Higher Education Act of 1965. This Act embodied the national philosophy that higher education was an important force in bringing about social equality. This Act also established the Educational Opportunity Grants Program (EOG)[1] to aid students with "exceptional financial need," and created the Guaranteed Student Loan program. The Higher Education Amendments Act of 1972 reauthorized the provisions of the 1965 legislation and the College Work-Study Program created by the Economic Opportunity Act in 1964. Additional provisions of this 1972 legislation greatly expanded federal assistance to needy students through the institution of the Basic Educational Opportunity Grants Program (BEOG)[2] and the support for the establishment of state aid plans, using matching federal dollars (State Student Incentive Grants). By this succession of legislative acts the federal policy on assistance to higher education became well established. Federal money for the support of higher education was aimed at universalism; selected use of federal dollars for the promotion of a national manpower policy or for creation of excellence in higher education did not become a primary national goal.

With the costs of higher education rising, it became apparent to Congressional leaders by the late 1970s that access to a college education was becoming increasingly limited for sons and daughters of middle-income families. These persons were not eligible for financial assistance under existing programs, even though they were not able to afford the rising cost of a college education. In 1978, the Middle Income Student Assistance Act was passed by the U.S. Congress. Under this Act the income level eligibility for the Basic Grant Program was significantly increased for families with dependent children, the criteria for independent students was liberalized, and the income ceiling condition under the Guaranteed Student Loan Program was completely removed. The guaranteed student loan ceiling has recently been replaced, with students from families with incomes greater than $30,000 required to demonstrate need.

No attempt has been made in this brief description of financial assistance programs to provide details on any of them. The purpose has been to show in a general way the changing nature of these programs and to indicate the increasing role of the federal government in improving access to higher education and equality of educational opportunity for low-income and middle-income students. While the states have also attempted to improve access, largely through low tuition and various financial aid programs, it is the federal government that has assumed the major responsibility in this effort.

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[1] Became the Supplemental Education Opportunity Grant (SEOG) under the Higher Education Amendments Act of 1972

[2] Currently called Pell Grants

Utilization of student financial aid. Through the use of the VCCS Financial Aid Reporting System (FARS) and the enrollment figures for the VCCS, during the years 1978 to 1981, some relationships can be drawn concerning the impact of federally-funded financial aid programs on Virginia Community College enrollments. Federal or federally-assisted programs included in the figures presented in Tables VIII through XI are:

Basic Educational Opportunity Grant (BEOG)
Supplemental Educational Opportunity Grant (SEOG)
College Work-Study Program (CWSP)
College Scholarship Assistance Program (CSAP)
National Direct Student Loan (NDSL)
Guaranteed Student Loan Program (GSL)

Several conclusions can be drawn from the information contained in these tables. Both the actual number of recipients of financial aid and the number of full-time equivalent students (FTES) generated by financial aid receipts are increasing, and these increases are occurring at a faster rate than VCCS enrollments in general. Additionally, the percent of the total FTES for the System which is generated by financial aid recipients is higher than the percent of the total individuals enrolled in the VCCS who are aid recipients. Because of the current funding structure for public colleges in Virginia, this larger impact of financial aid students on FTES enrollments than on headcount is a factor which cannot be ignored.

It will be noted that wide variations among institutions exist. For example, the impact of federally-supported financial aid programs is significantly lower at Northern Virginia Community College, with the opposite being the case for Paul D. Camp Community College. There is, however, a pattern that exists for the majority of the colleges. The Middle Income Student Assistance Act, implemented in the 1979-80 school year, accounted for significant first year increases in both the number of recipients and the FTES generated by these persons. Twelve institutions increased their total aid recipients and their recipient generated FTES by more than 25 percent. Overall, the VCCS had a 20 percent increase in recipients and a 23 percent increase in FTES generated for 1979-80.

The Middle Income Student Assistance Act of 1978 illustrates how changes in national policy can have a major affect on enrollments. While we know that this Act, alone, has contributed to VCCS enrollment growth, there is no way of knowing how many of the students would have attended the colleges without receiving such financial aid. All kinds of federal financial aid have had a strong influence on the overall growth of college enrollments during the 1970s and early 1980s. The percentage contribution of federally-supported financial aid programs to the total FTES enrollments increased nearly 5 percent in just two years, from 1978-79 to 1980-81 as shown in Table XI.

TABLE VIII

Number of Annual Unduplicated Students Generated By Federal Financial Aid Programs, 1978-1981

	1978-79	1979-80		1980-81	
Community College	N	N	% Increase	N	% Increase
Blue Ridge	90	178	97.8	226	27.0
Central Virginia	270	320	18.5	352	10.0
Dabney S. Lancaster	174	226	29.9	262	15.9
Danville	416	488	17.3	523	7.2
Eastern Shore	39	50	28.2	95	90.0
Germanna	77	132	71.4	159	20.5
J. Sargeant Reynolds	1,159	1,537	32.6	1,700	10.6
John Tyler	332	402	21.1	546	35.8
Lord Fairfax	101	159	57.4	194	22.0
Mountain Empire	197	362	83.8	503	39.0
New River	455	490	7.7	572	16.7
Northern Virginia	1,562	1,956	25.4	2,190	12.0
Patrick Henry	92	196	113.0	259	32.1
Paul D. Camp	459	637	38.8	527	(14.9)
Piedmont Virginia	187	235	25.7	316	34.5
Rappahannock	144	211	46.5	270	28.0
Southside Virginia	321	294	(8.4)	319	8.5
Southwest Virginia	383	476	24.3	525	10.3
Thomas Nelson	806	930	15.4	1,296	36.1
Tidewater	2,016	2,043	1.3	2,350	15.0
Virginia Highlands	376	458	21.8	547	19.4
Virginia Western	743	785	5.7	941	19.9
Wytheville	476	470	(1.3)	531	13.0
VCCS TOTAL	10,875	13,035	19.9	15,203	16.6

TABLE IX

Percentage Contribution of Federal Financial Aid Programs to 1978-81 Annual Unduplicated Headcount

Community College	Percentage Headcount		
	1978-79	1979-80	1980-81
Blue Ridge	2.8	5.3	6.4
Central Virginia	5.4	5.5	6.1
Dabney S. Lancaster	8.4	11.8	13.8
Danville	12.7	14.2	13.4
Eastern Shore	4.1	4.6	11.8
Germanna	5.0	6.8	8.7
J. Sargeant Reynolds	7.1	9.3	9.9
John Tyler	5.6	6.9	7.4
Lord Fairfax	3.6	5.6	6.6
Mountain Empire	5.0	6.7	9.1
New River	10.0	10.2	10.1
Northern Virginia	3.0	3.6	3.8
Patrick Henry	4.7	8.1	10.6
Paul D. Camp	23.8	31.2	26.2
Piedmont Virginia	3.4	4.1	4.8
Rappahannock	6.2	9.6	11.8
Southside Virginia	9.9	7.7	10.0
Southwest Virginia	8.5	8.0	7.6
Thomas Nelson	9.7	9.4	12.5
Tidewater	8.2	8.2	9.4
Virginia Highlands	18.2	18.1	23.5
Virginia Western	9.2	8.3	10.2
Wytheville	13.9	11.7	14.7
TOTAL	6.5	7.2	8.1

TABLE X

Number of Annual FTES Generated By Federal Financial Aid Programs 1978 - 1981

	1978-79	1979-80		1980-81	
Community College	Annual FTES	Annual FTES	% Increase	Annual FTES	% Increase
Blue Ridge	77.2	141.4	83.2	196.9	39.2
Central Virginia	205.3	246.1	19.9	273.2	11.0
Dabney S. Lancaster	140.8	196.2	32.2	248.3	26.6
Danville	337.3	468.0	38.7	486.6	4.0
Eastern Shore	36.5	47.7	30.7	79.0	65.6
Germanna	66.0	108.1	63.8	134.5	24.4
J. Sargeant Reynolds	781.6	1,094.6	40.0	1,233.6	12.7
John Tyler	255.6	305.0	19.3	400.0	31.1
Lord Fairfax	89.9	133.0	47.9	167.3	25.8
Mountain Empire	172.0	276.4	60.7	393.7	42.4
New River	385.5	412.8	7.1	487.2	18.0
Northern Virginia	1,069.4	1,396.8	30.6	1,696.0	21.4
Patrick Henry	66.8	147.1	117.2	199.0	35.3
Paul D. Camp	317.9	409.9	25.8	362.0	(11.7)
Piedmont Virginia	153.3	187.1	22.0	252.1	34.7
Rappahannock	118.1	171.7	45.4	231.2	34.7
Southside Virginia	255.7	266.4	4.2	301.8	13.3
Southwest Virginia	353.1	439.1	24.4	486.2	10.7
Thomas Nelson	529.5	641.0	21.1	894.5	39.5
Tidewater	1,348.5	1,395.8	3.5	1,621.4	16.2
Virginia Highlands	315.5	385.3	22.1	478.8	24.3
Virginia Western	524.1	590.1	12.6	711.2	20.5
Wytheville	430.0	438.2	1.9	497.4	13.5
VCCS TOTAL	8,029.6	9,897.7	23.3	11,831.9	19.5

TABLE XI

Percentage Contribution of Federal Financial Aid Programs Generated FTES to Total Annual FTES, 1978-81

COLLEGE	1978-79 %	1979-80 %	1980-81 %
Blue Ridge	7.2	12.9	16.5
Central Virginia	11.2	12.3	13.6
Dabney S. Lancaster	21.4	28.0	33.7
Danville	19.7	26.8	25.1
Eastern Shore	16.4	19.3	29.5
Germanna	12.6	17.6	21.0
J. Sargeant Reynolds	18.5	24.9	26.0
John Tyler	14.0	17.2	18.3
Lord Fairfax	11.0	15.9	18.2
Mountain Empire	21.8	29.6	34.8
New River	26.4	26.4	29.1
Northern Virginia	6.9	8.6	9.8
Patrick Henry	10.8	20.0	24.4
Paul D. Camp	42.0	52.5	50.3
Piedmont Virginia	11.7	13.0	15.7
Rappahannock	17.3	24.6	30.8
Southside Virginia	26.8	26.1	31.4
Southwest Virginia	24.5	26.7	27.8
Thomas Nelson	16.4	18.7	24.2
Tidewater	16.5	17.2	19.1
Virginia Highlands	34.6	40.1	44.0
Virginia Western	17.9	18.9	21.7
Wytheville	34.5	34.0	38.6
VCCS TOTAL	15.2	17.9	20.0

The future effects of financial aid. Contemplating future enrollment trends requires a perspective regarding student financial aid. The impact of financial assistance programs must generally be considered from the national viewpoint of federal involvement. Shorter term projections related to the financial aid impact on enrollments are frequently more difficult to develop with accuracy than are longer range observations based on anticipated fundamental changes in aid policies. Delays in the preparation of federal guidelines for aid recipients for a given year, Congressional budget cuts or increases, and any changes in the procedures for requesting aid or in the methods of analyzing student eligibility are all possible causes for an increase or decrease in the number of awards made in a particular year. These financial aid program funding and administrative factors are unpredictable but have immediate impact each year on a college's enrollments.

Longer range projections are, or at least should be, based on those prevailing national philosophies which the well-informed individual can, with relative accuracy, predict will bring about changes in support for higher education. As observed earlier, there have been major shifts in the purposes and levels of support for financial assistance to college students since World War II. Some important questions to bear in mind when anticipating the impact of financial programs on enrollments over the next decade have been suggested by the Carnegie Council on Policy Studies in Higher Education, the American Council on Education--Council for Policy Analysis and Research, and the Brookings Institute. Selected from these various reports are the following questions which enrollment analysts might use an indicators of change.

- What if there is an augmented national commitment to achieve equal educational opportunities?
- Might higher education become a part of a public youth policy during a period of prolonged and extensive youth unemployment?
- What if the federal government decides to invest a significant amount of dollars in the education of its most talented young people?
- Will documented ability to benefit from higher education be a criterion for financial assistance?
- Will the need for high technology training bring increased support for educating persons in designated academic disciplines?
- What will be the nation's military manpower needs? How many will be needed and what possible educational inducements will be offered in the form of financial assistance upon leaving the service?

- How much will inflation increase, requiring more dependence on financial assistance? Will there be a point where the demand for limited assistance dollars dramatically decreases the access to higher education?

- Will there be a national appeal for a reduction in tax dollars, calling for increased self-help by college students and their families? Will higher education be looked upon more as a benefit to the student or to society?

- What place will higher education have as it competes for limited federal dollars with the military, social programs, and other educational programs such as tuition tax credits and other K-12 assistance?

- How effective will be requests to industry for financial support of college students, in the form of grants and work/study arrangements?

- Will the federal government view tax incentives to industry as a means of augmenting the supply of private industrial dollars for higher education?

- Will the current federal vocational education programs be expanded in response to those manpower needs which can be met primarily through post-secondary education?

These questions do not form an exhaustive list of issues for making assumptions about the future impact of financial aid on enrollments. They do, however, set the stage for creating the type of perspective which must be maintained in assessing the effects of financial assistance on enrollment projections.

EFFECTS OF POPULATION TRENDS ON ENROLLMENT: 1980-1990

Enrollment projections are influenced to a great extent by population growth and characteristics. At the time of this *Plan's* publication, official Virginia population projections based on 1980 U.S. Census Data were not available for the years 1981 through 1990. Since the *Plan* requires a general understanding of the population which the community colleges will serve during the decade, the System needed to develop its own. Because projecting such trends is risky even for accomplished demographers, the projections presented here should be viewed with caution. They are based on very simplistic assumptions and are intended to provide a general estimate of likely trends rather than a precise prediction.

The composition of Virginia's population changed dramatically between 1970 and 1980. While the state's population was rising by 15 percent, it was also becoming markedly older. Despite the overall increase, the number of children below the age of 15 years actually declined by 145,171. The number of persons between the ages of 25 and 34 years, on the other hand, increased by 312,183, a jump of 50.7 percent.

Table XII gives a brief summary of the shifts in age distribution that occurred between 1970 and 1980. A close examination of the data in the Table also provides an indication of likely trends over the decade of the 1980s. The population shifts that were observed between 1970 and 1980 were the result of two factors: natural increase (births minus deaths) and net migration (number of people moving in minus the number moving out). The composition of the adult population in 1980 was the result of the survival rate for the age groups ten years younger in 1970 and the effects of net migration.

In order to estimate the adult population distribution for 1990, it was assumed that these effects would remain essentially the same for 1980-1990 as they had been in the previous decade. A constant was generated by dividing the 1980 population for a particular age category by the 1970 population for the groups ten years younger. These constants were then multiplied by the appropriate age categories for 1980 to generate the 1990 population projections. These calculations are summarized in Table XIII.

If these projections prove valid, the 1980s will produce a substantial decrease in the "traditional" college age population of 18-24 years - nearly 76,000 fewer than in 1980. See Table XIV. The number of individuals in the 18-21 age groups and the 22-24 range will fluctuate somewhat but both groups show a generally downward trend. These decreases, however, will be more than offset by large increases in the older age groups. Table XV examines the likely effect such population shifts would cause in VCCS enrollments by applying fall 1981 VCCS attendance rates for various age groups to the populations projected for those age groups. As the Table demonstrates, in the absence of mitigating circumstances, enrollment demand for in-state students should increase by 8.6 percent between 1981 and 1990. Such an increase in headcount enrollment, however, would likely not be reflected completely in terms of FTES generated since there would be decreases in the younger students who typically comprise the bulk of the full-time students.

Under the current funding guidelines, which are based on FTES, such a shift in enrollment patterns would create a substantial burden for the colleges. Each student, whether full-time or part-time, requires fixed levels of certain services (e.g. for processing applications, enrollments, payments, etc.). In addition, older students will often require more extensive counseling, placement testing and orientation procedures than younger students. One FTES generated by three thirty year old part-time students will require a greater commitment of administrative and student support resources than one FTES generated by a single eighteen year old full-time student, however, both means of generating FTES now receive the same funding. For Virginia's community colleges to adequately serve the needs of the student population emerging in the 1980s, this situation should be changed. What is required is an adequate level of funding to cover the administrative costs involved with part-time students.

TABLE XII

AGE DISTRIBUTION OF VIRGINIA POPULATION
1970 v 1980

	1970		1980		Change	
	#	%	#	%	#	%
10	850,080	18.3	748,210	14.0	-101,870	-12.0
10-13	380,848	8.2	341,657	6.4	- 39,191	-10.3
14	93,504	2.0	89,394	1.7	- 4,110	- 4.4
15	91,270	2.0	96,593	1.8	5,323	5.8
16	87,972	1.9	98,788	1.8	10,816	12.3
17	86,787	1.9	99,692	1.9	12,905	14.9
18	87,247	1.9	101,648	1.9	14,401	16.5
19	87,647	1.9	108,953	2.0	21,306	24.3
20	93,529	2.0	109,646	2.1	16,117	17.2
21	91,610	2.0	108,248	2.0	16,638	18.2
22-24	254,395	5.5	313,074	5.9	58,179	22.8
25-34	615,681	13.2	927,864	17.4	312,183	50.7
35-44	549,262	11.8	662,885	12.4	113,623	20.7
45-54	529,591	11.4	545,907	10.2	16,316	3.1
55-59	210,537	4.5	267,889	5.0	57,352	27.2
60+	538,034	11.6	726,370	13.6	188,336	35.0
TOTAL	4,648,494	100.0	5,346,818	100.0	698,324	15.0

TABLE XIII

PROCEDURE FOR DEVELOPING 1990 POPULATION ESTIMATES

1970		1980		
Age Ranges	Population	Age Ranges	Population	Multiplier
7 - 14	751,960	17 - 24	841,261	1.12
15 - 24	880,957	25 - 34	927,864	1.05
25 - 34	615,681	35 - 44	662,885	1.08
35 - 44	549,262	45 - 54	545,907	.99
45+	1,278,162	55+	994,259	.78

TABLE XIII (continued)

1980			1990	
Age Ranges	Population	Multiplier	Age Ranges	Projected Population
8 - 11	334,138	1.12	18 - 21	374,235
12 - 14	260,222	1.12	22 - 24	291,449
15 - 24	1,036,642	1.05	25 - 34	1,088,474
25 - 34	927,864	1.08	35 - 44	1,002,093
35 - 44	662,885	.99	45 - 54	656,256
45+	1,540,166	.78	55+	1,201,329

TABLE XIV

PRELIMINARY PROJECTIONS OF ADULT POPULATION FOR SELECTED YEARS 1980 - 1990

Age	1980	1981	1984	1985	1990	Change	
							%
18-21	428,495	421,991	394,428	415,339	374,235	-54,260	-12.7
22-24	313,074	318,514	326,557	317,954	291,449	-21,625	- 6.9
25-34	927,864	946,398	1,003,748	1,026,211	1,088,474	160,610	17.3
35-44	662,885	689,503	780,082	811,922	1,002,093	339,208	51.2
45+	1,540,166	1,568,593	1,659,347	1,690,027	1,857,585	317,215	20.6

TABLE XV

PROJECTED IN-STATE ATTENDANCE DEMAND FOR SELECTED YEARS AT 1981 ATTENDANCE RATES (Fall Headcount)

Age	Attendance Rate (1981)	Year			
		1981	1984	1985	1990
18-21	.0783	33,052	30,884	32,521	29,303
22-24	.0449	14,302	14,662	14,276	13,086
25-34	.0368	34,862	36,938	37,765	40,056
35-44	.0234	16,125	18,254	18,999	23,449
45+	.0057	8,925	9,458	9,633	10,588
18/Unknown		1,586	1,653	1,698	1,747
TOTAL In-State		108,852	111,849	114,892	118,229

It is also highly likely that attendance rates among the 25-44 year old population will increase. This is the age range of workers that will most likely be displaced by technological changes in the work place. Meeting their retraining needs could become a formidable task. The large influx of people from the 18-21 age range in 1980 into the work force is also likely to increase competition for jobs in the next several years. Many people may decide to invest two to four years in college training to improve their marketability. A study ranking occupations according to their desirability in terms of employment stability and earning potential showed that jobs with the highest unemployment rates typically were those requiring little specialized training (Wash, 1982). It is highly likely, then, that many individuals in these types of positions will seek to acquire more secure and lucrative employment by upgrading their skills through further education.

VCCS ENROLLMENT PROJECTIONS

In December 1982, the State Council of Higher Education for Virginia (SCHEV) approved VCCS 1982-84 enrollment projections. The December 1982 estimates for 1982-84 are shown in Table XVI, along with actual enrollments for the period 1977-78 to 1981-82. VCCS annual FTES projections through 1985-86 are provided in Table XVII. Detailed enrollment data for 1979-80 through 1983-84 are provided in Appendix H of the *Plan*.

Table XVI

VCCS Fall Headcount and Annual FTES Enrollments
1977-78 to 1983-84

	Fall Headcount		Annual FTES	
Year	Number	% Increase Over Previous Year	Number	% Increase Over Previous Year
1977-78	94,306*	10.3	52,323*	3.0
1978-79	99,681*	5.7	52,877*	1.0
1979-80	103,839*	4.2	55,360*	4.7
1980-81	110,129*	6.1	59,144*	6.8
1981-82	114,082*	3.6	61,428*	3.9
1982-83	107,014*	(6.2)	60,131**	(2.1)
1983-84	113,342**	5.9	61,747**	2.7

*Actual Enrollments. Source: Student Enrollment Booklet - Fall 1977 through Fall 1982. System Offices, VCCS.

**Estimated Enrollments. Source: SCHEV approved VCCS Enrollment Projections, Form 2-B, December 1982.

The slow to moderate growth in enrollments between 1977-78 and 1981-82 shown in Table XVI were expected to continue through the 1982-84 biennium. However, the VCCS experienced a 9 percent decline in summer 1982 enrollments as compared to summer 1981; a decline of 6.2 percent occurred in fall 1982 headcount enrollment as contrasted to fall 1981 figures, and a decline of approximately 2 percent in FTES enrollment is also anticipated.

These enrollment declines experienced early in the 1982-83 academic year required that the VCCS begin to study the causes of the declines and reassess its forecast of enrollments for the rest of 1982-83, for 1983-84 and through the 1984-86 biennium. SCHEV-approved (December 1982) enrollment estimates for 1982-84 and projections for the 1984-86 biennium are provided in Table XVII.

Table XVII
VCCS Annual FTES Estimates for 1982-84
and Projections for 1984-86

Year	Annual FTES	Change Over Previous Year Number	%
1982-83	60,131	(1,297)	(2.1)
1983-84	61,747	1,616	2.7
1984-85	63,407	1,660	2.7
1985-86	64,906	1,499	2.4

The estimates for 1982-83 and 1983-84, together with the projections for 1984-85 and 1985-86 are subject to periodic System review and revision as enrollments fluctuate and resources grow or diminish. All changes in VCCS official enrollment forecasts for the 1984-86 biennium (and subsequent biennia) are subject to the approval of the State Council of Higher Education for Virginia.

X

FINANCE AND PERSONNEL

INTRODUCTION

The major purposes of this chapter of the ***Master Plan*** are to describe and analyze the current financial planning models and guidelines that are used to manage the System's financial resources; and to delineate a long-range resource allocation program that supports the educational programs and services offered throughout the System. Three issues related to these purposes are of particular concern as the System manages its resources in future years: (a) an equitable resource distribution to all institutions throughout the Virginia Community College System; (b) maintenance and enhancement of the quality of educational programs; and (c) delivery of new or expanded occupational-technical programs to meet the growing demand of the general population and the occupational demand of the business and industrial community.

To achieve the purposes stated above, this chapter provides an analysis and comparison of the funding models and guidelines used by the Executive Branch of state government, the State Council of Higher Education for Virginia, the Department of Planning and Budget, and the State Board for Community Colleges, to distribute resources. A description of the process that is used by the VCCS to manage non-general funds also follows. Finally in the chapter, recommendations concerning the sources of funds to achieve the strategic objectives described earlier in the ***Plan*** and to initiate the new educational programs and majors approved for the 1984-86 biennium, by the State Board for Community Colleges, are made. Additional recommendations that concern VCCS financial management in future years are also provided.

Financial planning, from an historical perspective, was based initially upon requests for the General Assembly to appropriate funds to the System for new colleges which were authorized to open for the first time. In 1968, the VCCS began using a set of guidelines to create some consistency among the requests for funding coming from the growing number of community colleges. Later, the Department of Planning and Budget became interested in the concept and its application to all of higher education. For the VCCS, these guidelines represented the first step in long-range financial planning. Subsequently, the State Council for Higher Education for Virginia and the Department of Planning and Budget developed the Appendix M Guidelines which were initially used in the early 1970s and are still presently used in much the same way. Competition for increasingly scarce state revenues, and concern that allocations based simply on Appendix M Guidelines resulted in funding inequities among the 23 colleges, led to a search for alternative financial planning models. The VCCS developed and implemented a budget targeting model for the 1982-84 biennium. Its purposes were to complement the Appendix M Guidelines by providing a method to distribute among the colleges resources allocated to the System. Both of these models are discussed and analyzed in detail within this chapter.

Already in the first few years of the decade of the 1980s, institutions have experienced profound changes in the total state and federal resources available to higher education. These changes require new planning assumptions, goals, and objectives for the Commonwealth of Virginia, as well as the Virginia Community College System and its individual colleges. Specific factors are identified within the *VCCS Master Plan*; however, the most significant assumption for VCCS financial planning is: ***there will not be significant real dollar increases in state funding during the planning period.*** This changed financial picture of limited state resources and no significant increase of real dollars leads inevitably to a long-range financial plan that meets, in a balanced way, both the new and expanding educational needs of the citizenry, as well as the present requirement for maintaining quality services throughout the state.

Funding trends for the Virginia Community College System can be seen from an historical perspective in Figures 1 and 2. Of greatest importance is the 20.7 percent decline in dollars per FTE from 1972-73 to 1981-82. The Consumer Price Index (CPI) clearly establishes that one dollar in 1973 is worth less than fifty cents in 1982 dollars. Although actual dollars per year increase per FTE, the purchasing power of those dollars is significantly lower.

Of interest also is the steady increase of VCCS enrollment, except for 1977 and 1978. There is, of course, an intrinsic relationship between dollars per FTE and enrollment. Thus, for 1977, 1978, and 1979, the colleges gained some ground in the climb back to the base year, 1973, because VCCS did not meet projections. However, funding for 1980, 1981, and 1982 shows a significant decrease in these dollars.

The *VCCS Master Plan* must, then, necessarily reflect the reality of limited enrollment growth. It must also provide a disciplined approach to the development of new educational programs and to the expansion of existing educational programs. Finally, the fiscal reality that the System will face in future years will include increased costs for faculty and staff salaries, as well as increased maintenance costs for maturing physical plants.

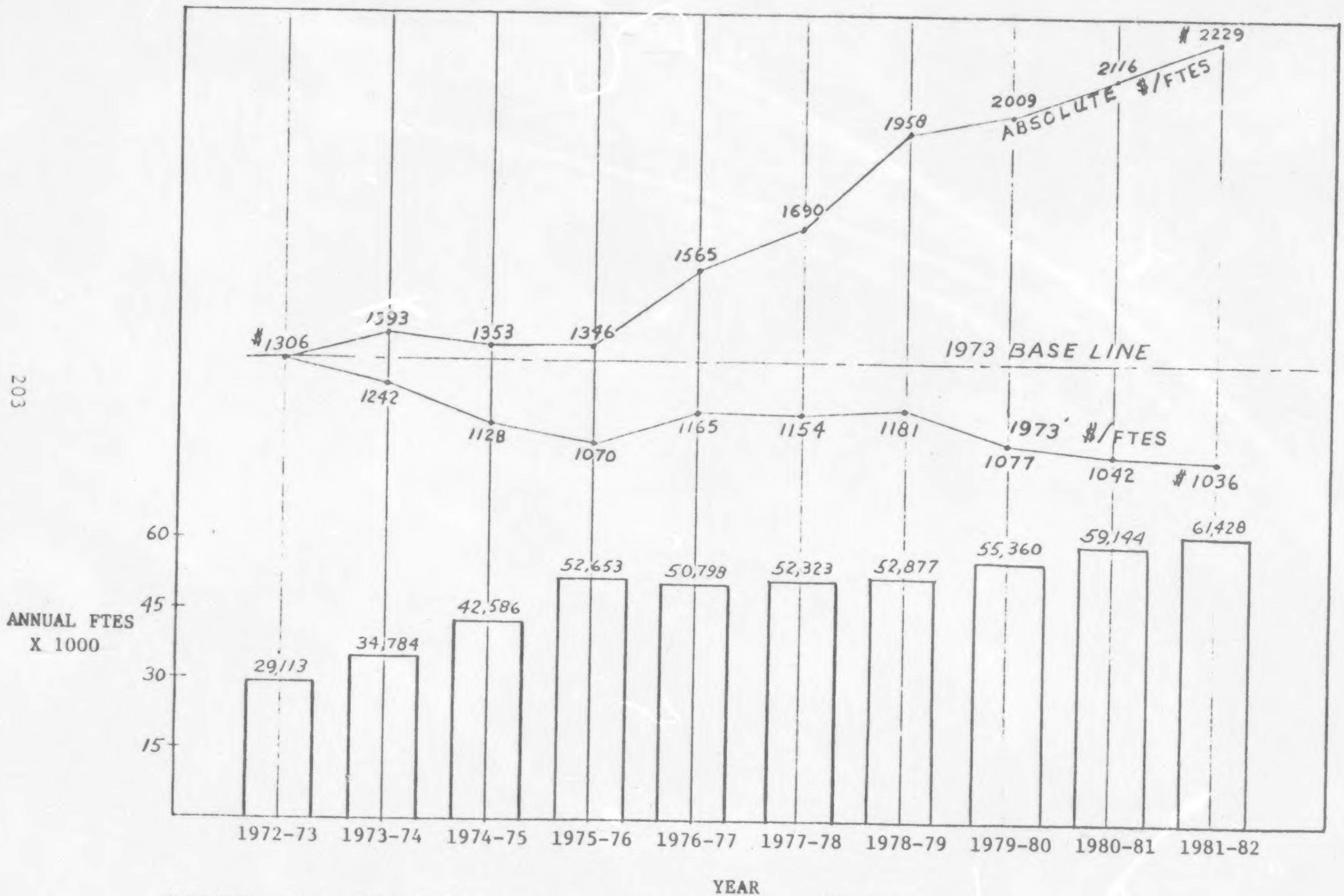
ANALYSIS OF FINANCIAL PLANNING

An analysis of the financial planning processes presently utilized by the Commonwealth of Virginia, State Council of Higher Education for Virginia (SCHEV), and the Virginia Community College System follow. These analyses include:

- Appendix M Guidelines
- VCCS Targeting Model
- Comparison of Appendix M to VCCS Targeting Model
- Pooled Revenue Concept

Figure 1

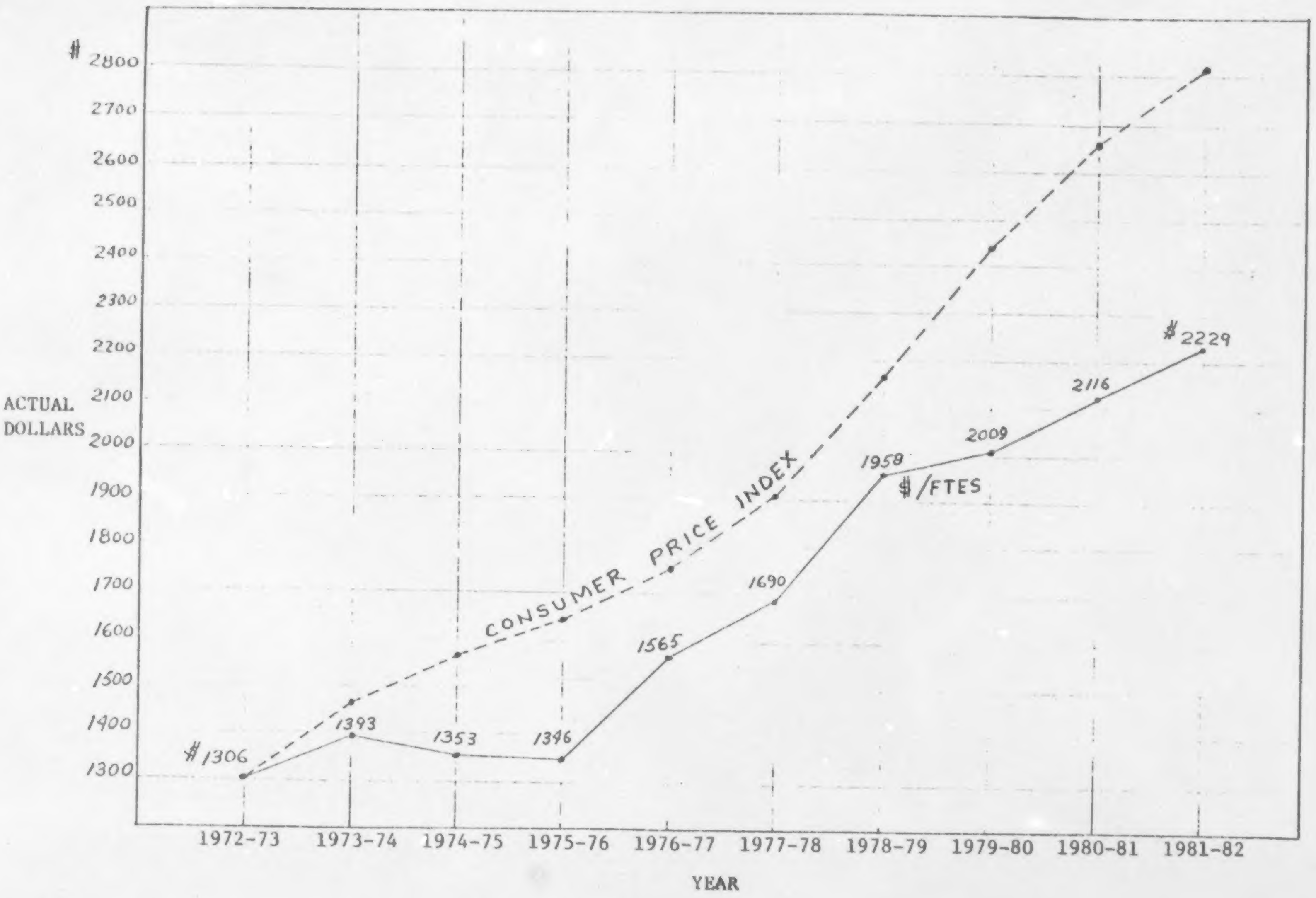
COSTS **PER FTES** IN REAL AND ABSOLUTE DOLLARS AND 1973 DOLLARS



SOURCES: Student Enrollment Data: **A 10-Year Summary** 1966-1975 (VCCS, June 1976)
Interim Working Copy of Student Enrollment Data: A 5-Year Summary 1976-1980 (VCCS, August 1981)
Enrollment Analysis for 1981-82 (VCCS, August 3, 1982)

Figure 2

CONSUMER PRICE INDEX AND ACTUAL DOLLARS PER FTES BY YEAR



Appendix M Guidelines Analysis: Appendix M Guidelines are used, for various financial planning purposes, by the Governor, the Department of Planning and Budget, the State Council of Higher Education and the Virginia Community College System. The funding process is really begun as the System negotiates approved enrollment projections for each college with SCHEV. The Appendix M Guidelines are used to translate, ultimately, student enrollments into a number of faculty, administrative, and classified positions for each institution. The total number of faculty, classified, and administrative positions are then used to calculate the salary it would take, based on historical information, to pay for those positions.

The methodology used in Appendix M is relatively straightforward; however, several of its underlying assumptions have fiscal implications for the System, in that these assumptions cause difficulties for equitably distributing funds to all colleges. The Appendix M Guidelines are based upon the following assumptions:

1. That unique institutional characteristics are reflected in each college's enrollment within a discipline.

2. That all college needs for a biennium in non-personnel areas are reflected in the historical information of the previous biennium.

3. That equitable and appropriate library collections exist for the individual institutions of the Virginia Community College System.

4. That the historical relationships of positions to the square feet of buildings or to fall headcount, reflect necessary allocations of personnel for physical plant and logistical services.

5. That expenditures in non-personnel and library services were adequate for the previous base year.

The main elements upon which the Appendix M Guidelines are based include:

1. Instructional staffing guidelines based on historical faculty/student ratios by discipline for like institutions. The faculty/student ratios, by discipline, for community colleges are:

    (a) Health Service: 1-10;

    (b) Mechanical and Engineering Technologies: 1-12;

    (c) Developmental Studies: 1-15;

    (d) Business and Commerce: 1-16;

    (e) All others: 1-22.

A factor for the historical mix of full-time and part-time faculty at each institution is also used.

2. Academic Administration--This includes personnel positions used directly in the support of the academic programs. These positions are calculated in the following way:

   Classified--One per eight (8) teaching faculty.

   Administrative--One per 25 teaching faculty.

3. Library costs are developed in the following way:

   (a) Cost of books--Funds are provided to replace 5 percent of each college's collection each year if 100 percent of Appendix M is funded; this provides neither funds for new programs nor specified funds for periodicals, nor adjustments for fluctuations in FTES.

   (b) Basic staffing allocations for librarians are three (3) full-time equivalent (FTE) positions plus one (1) FTE for each additional campus. Additional staffing is provided for libraries in the following ways: one (1) position per 500 FTES plus one (1) position per 50 faculty. The aggregate positions are then authorized as 60 percent classified and 40 percent administrative (directors, coordinators, and librarians).

4. Student Services and Institutional Support: Staffing is provided in the following ways:

   (a) Basic staffing for student services at each college begins with two administrators and two classified staff at the college plus one additional administrative position and one additional classified position for student services at each campus.

   (b) For institutional support, basic staffing at each college begins with six (6) classified positions and three (3) administrative positions, plus one (1) FTE administrative position and one additional classified position for each additional campus.

   (c) For both programs collectively, additional classified staff are provided at the rate of 10.5 per 1,000 FTES, and additional administrators are provided at the rate of four (4) per 1,000 FTES. (It should be noted that counselors are included in the administrative allocation.) Additionally, for colleges with low FTES/headcount ratios, an additional staffing allocation is made to provide services to the large numbers of headcount students.

5. Physical Plant:

   Classified staff are allocated on an historical ratio of actual number of classified positions to the square feet at the College. There are neither normative guidelines for this category, nor are there any established minimums.

6. Logistical Services:

   Classified staffing is determined on the basis of an historical ratio of positions to the fall headcount. There are neither normative guidelines for this category, nor are there any established minimums.

With the determination of the number and types of positions for each college, the amount of dollars to be provided for that institution becomes a rather simple matter of multiplying positions times the historic salary averages for administrators, faculty, and classified staff at that institution, and then adding the percentage salary increase. Further, all other non-personnel costs are based on historical expenditure patterns and multiplied by an inflation factor which has tended to be smaller than the actual inflation rate. However, the wage category is not based upon historical expenditure patterns; it is based on a fixed percentage of total classified costs that determines the amount of funds available in the wage category. The aggregate of these two totals provides the dollar amount to be appropriated for the college at 100 percent of Appendix M Guidelines.

VCCS Targeting Model Analysis: The VCCS is legislatively mandated to maintain operations that cannot be as efficient in delivering educational services as can some other institutions. This is particularly true for small, rural institutions. To implement the community college mission, the System must therefore ensure that it continues to provide adequate funding so that the smallest institutions can maintain the quality of their educational services. Financial and personnel planning is even more complicated by the need to make as many decisions as possible at the local level, while at the same time ensuring that the System responds to needs throughout the Commonwealth. Implementation of the VCCS Targeting Model represents a major step toward that goal.

The assumptions of the VCCS Targeting Model are:

1. That an economy of scale exists among the VCCS institutions, exclusive of Allied Health programs, which have externally fixed faculty/student ratios.

2. That library collection size should be a function of potential student users.

3. That each college needs a minimum base allocation for physical plant.

4. That each college needs to make annual investments to maintain its educational equipment, including replacement of obsolete or worn out equipment with state-of-the-art equipment.

5. That a VCCS goal of 70 percent to 80 percent full-time and 20 percent to 30 percent part-time is an appropriate mix of full-time to part-time faculty.

6. That essential costs can be allocated using the average expenditures for institutions within the same enrollment cluster.

7. That fixed costs could be based on historical data.

8. That based on current market conditions, there is not a pressing need to advance adjunct faculty salary averages.

9. That faculty salary averages need only be increased by the aggregate percentage raise for previously authorized faculty, and that all newly authorized faculty positions could be funded at the minimum salary scale for Assistant Professors.

10. That the VCCS would achieve its enrollment projection.

11. That once general fund allocations are made no reduction or modifications in the general fund dollars would be made by the VCCS within an operating year.

12. That the Targeting Model should be an enhancement to the Appendix M Guidelines to create a more equitable distribution of appropriated dollars.

13. That irrespective of the Targeting Model, each college is accountable for the assignment of funds to budget categories.

14. That no attempt be made to include adjustments within the model for apparent discrepancies among institutions for faculty salary averages, excluding a Northern Virginia Community College eight (8) percent salary differential.

15. That the VCCS Targeting Model be designed to assist in the development of college budgets and that it not be used to administer or execute college budgets.

16. That no attempt be made to readjust Student Services institutional support classified staffing on the basis of part-time/full-time student mix or to readjust supplemental personnel applications for multi-campus staffing needs.

The primary purposes of the Targeting Model are to eliminate financial inequities that occur because of the differences in the operations of two-year and four-year institutions, and to redistribute equitably, appropriated dollars among the twenty-three community colleges. The VCCS Targeting Model includes the following modifications to Appendix M:

1. Applies differential productivity requirements, based on college size, to Appendix M Guidelines for instructional staff. This places colleges in the following productivity categories:

   115% institutions:

   - J. Sargeant Reynolds Community College
   - Northern Virginia Community College
   - Tidewater Community College
   - Thomas Nelson Community College
   - Virginia Western Community College

   107% institutions:

   - Central Virginia Community College
   - Danville Community College
   - John Tyler Community College
   - New River Community College
   - Piedmont Virginia Community College
   - Southwest Virginia Community College

   100% institutions:

   - Blue Ridge Community College
   - Lord Fairfax Community College
   - Mountain Empire Community College
   - Virginia Highlands Community College
   - Wytheville Community College

   90% institutions:

   - Dabney S. Lancaster Community College
   - Germanna Community College
   - Patrick Henry Community College
   - Paul D. Camp Community College
   - Rappahannock Community College
   - Southside Virginia Community College

   78% institution:

   - Eastern Shore Community College

The rationale for this differential grouping by size is that there should be an economy of scale (size) in teaching most classes. Using two extremes, if a campus with 8,000 FTES offers 100 sections of ENGL 111, then nearly all will be at full capacity. Yet, a small campus must offer three sections, which will probably not be full, because of student schedules and sequenced program requirements. Thus, the larger the campus, the greater the potential for higher efficiency. This is not true, however, for the Allied Health programs, because the maximum student enrollment per class is set by external agencies such as hospitals and medical certification boards. As a consequence, Allied Health programs are not expected to perform more efficiently than 100 percent.

2. Library books--Allocates funding on the basis of FTES rather than current collection. The rationale for this modification is that the focus of the budgeting process for libraries should be potential student users, reflected in FTES, not historical collection size.

3. Physical plant--Provides minimum staffing at one position per 8,000 square feet of assignable and non-assignable (does not include square footage used for structural purposes) space. The rationale for this is to institute some normative guidelines for physical plant, rather than use strictly historical information.

4. Logistical services--Provides minimum staffing at one position per 600 fall headcount. No attempt is made to address staffing problems unique to multi-campus institutions.

5. Costing--This reflects a management judgment on adequacy and equity of salary averages, wages and non-personnel expenditures, and full-time/part-time faculty mix as a part of the distribution of dollars.

Comparison of Appendix M to VCCS Targeting Model: The Appendix M Guidelines provide an approach to the allocation of resources for both two-year and four-year institutions. The VCCS Targeting Model uses current data and normative guidelines to equitably distribute dollars throughout the System. Exclusive use of historical data is only one difference between Appendix M and the VCCS Targeting Model. Another contrast between the two models is that the VCCS budget is considered an aggregate in the VCCS Targeting Model and monies are subsequently apportioned to individual colleges. Formerly, adjusted Appendix M figures, as they appeared in the Appropriations Act, were used to determine individual college budgets. Another area of contrast between the two models lies in the incorporation of the "economy of scale" concept into the VCCS Targeting Model. Finally, a fourth major difference is the assumption in Appendix M that existing physical plant and logistical services are at least at a minimum level. The VCCS Targeting Model rejects that assumption and establishes a normative base for these areas. However, the VCCS Targeting Model does not make allowances for special logistical problems for multi-campus institutions.

Finally, it should be noted the differences between the two models do not preclude the simultaneous use of them. The VCCS Targeting Model can be viewed as an enhancement to Appendix M Guidelines. A more effective approach would be to include the guidelines of the VCCS Target Model into Appendix M Guidelines. Independent of the administration of these funding models, however, is an important concept: the authority of the VCCS, as a single institution, to manage and allocate its resources is critical to financial planning in future years.

Pooled Revenue Concept Analysis: The pooled revenue concept was developed to address a problem which is derived from the problems inherent to projecting enrollments and, in turn, projecting revenues which will be generated from tuition and fees. Various factors influence not only the total number of students that will enroll in community colleges, but also the numbers that will attend as full-time and as part-time students. The differences in tuition paid by full-time and part-time students, in turn, affect revenue projections. Another problem addressed by the concept is that while all institutions use the tuition rate set by the State Board, the actual proportion of tuition (non-general fund dollars) to general fund dollars varies from institution to institution. Several colleges are able to generate a disproportionately higher share of non-general fund dollars because of their geographic location, proximity to military installations, and large numbers of part-time students. These factors tend to generate a larger amount of tuition monies.

The System Offices have provided some consistency across the System in terms of the ratio of general fund and non-general fund dollars within each college budget, through the development and implementation of a "pooled revenue concept." The pooled revenue concept is based on the following parameters:

1. All unrestricted non-general fund revenue projected by the VCCS is appropriated in lieu of general fund support by the Legislature.

2. The tuition and fee portion of non-general fund revenue is used to support a fixed percentage of the costs of credit instruction and support services for the System, rather than allowing this portion to vary from college to college.

3. The tuition schedule is set annually by the State Board for implementation throughout the System.

4. Tuition and other non-general fund revenue appropriated to the System, in lieu of general fund support, is collected and deposited by each college.

5. Aggregate System collections of non-general fund revenue, appropriated in lieu of general fund support, is redistributed through a System clearing account to support the required percentage of authorized expenditure for each college.

6. Over collections of non-general fund revenue, if already appropriated by the General Assembly, will be distributed equally on the basis of enrollment to all colleges. However, there is no indication that the System will be allowed to use excess revenue beyond the authorized figure in the Appropriations Act.

7. Assuming the VCCS meets its aggregate enrollment and revenue projection, then colleges below their projections will lose $640 per FTE for 1982-83 and colleges above their projections will be reimbursed at the same rate. This rate may change in future years.

8. Once the fiscal year has begun, the System will not normally alter any general fund appropriation for individual colleges.

There are three major advantages of using this approach to revenue management:

1. Throughout the System, there will be consistency in the ratio of general fund to non-general fund dollars.

2. A college is assured that if it meets its enrollment projections, then it will have all of the non-general fund dollars authorized for that college, without regard to the differences to in-state and out-of-state or full-time and part-time mix of its student body.

3. The Pooled Revenue Concept provides for a consistent effect on an individual college budget, when the System is faced with a budget reversion. Under the previous system, a college that had a large number of out-of-state students and a large number of part-time students would be required to revert general fund dollars.

FINDINGS

Although the strengths of the VCCS Targeting Model have been cited earlier, it is apparent that it needs refinement. Because the concept has not been tested over time, the findings regarding the pooled revenue concept are not as clear. The idea that each college should have the same ratio of general fund revenue to non-general fund revenue has definite advantages. However, if the System is unable to forecast students and therefore non-general fund revenues, then potential difficulties with the use of this concept may arise.

These findings and other issues that relate to future VCCS financial and personnel planning are addressed in the recommendations which follow.

RECOMMENDATIONS

Recommendations for Funding Educational Programs and Services

1. That new programs and majors be funded in all aspects by each individual college through a reallocation of funds and positions by changing its priorities and mix of educational programs and its delivery of services. (*Master Plan* Goal #8, Objective #1 and #6)

   The estimated costs and faculty positions by individual college for the approved new programs for 1984-86 are shown in Table I that follows.

2. That where a region must respond to the establishment of new industries in the Commonwealth, the State Board for Community Colleges request additional funding from the General Assembly. (*Master Plan* Goal #8, Objective #5)

3. That any new VCCS campuses and/or centers be established only with appropriate special funding from the General Assembly. (*Master Plan* Goal #1, Objective #3 and Goal #4, Objective #2)

4. That through a systemwide reallocation, a permanent funding structure be established to support the VCCS computer network, as described in the May 1981 ***Master Plan for VCCS Computing Services***. Responsibilities of Level 1, Level 2, and Level 3 sites should be clearly delineated along with responsibilities for providing equipment and staff at these three levels. (***Master Plan*** Goal #9, Objective #3)

5. That the VCCS seek special funding from the General Assembly for the following ***VCCS Master Plan*** goals and objectives. Note: The funding requirements for all ***VCCS Master Plan*** strategic objectives were reviewed. For objectives that do not require special funds from the General Assembly, the required funds will come from college or System reallocations.

   Goal #3, Objective #2 - To increase faculty and staff salaries to the level of average salaries paid nationally.

   Goal #3, Objective #6 - To improve fringe benefit programs to a point where they are competitive with national programs.

   Goal #10, Objective #2 - To achieve objectives of existing VCCS and statewide affirmative action plans and policies.

Recommendations for Enhancing VCCS Financial Planning Processes

1. That the VCCS Targeting Model be enhanced in the following ways: (*Master Plan* Goal #8, Objective #1)

   a. Restructure the efficiency clusters by campus, rather than by college.

TABLE I

COSTS, ENROLLMENTS, AND NEW FACULTY FOR 1984-86 PROGRAMS AND MAJORS

College	Program	Cost	Enrollment and (New Faculty) 1984	1985
CATEGORY #1 PRIORITY				
New River	Data Processing	$ 90,259	15 (1)	30 (1)
Tidewater	Civil Engineering	67,365	20 (1)	25 (0)
New River	Environmental Control	68,800	18 (1)	20 (0)
Blue Ridge	Nursing	170,590	20 (2)	36 (3)
Mountain Empire	Police Science	92,000	18 (0)	30 (0)
Piedmont Virginia	Medical Lab	76,580	12 (1)	20 (1)
		$ 565,594	103 (6)	161 (5)
CATEGORY #2 PRIORITY				
Piedmont	Science Lab	$ 66,000	12 (1)	20 (0)
Southside	Nursing	216,000	30 (2)	40 (1)
Virginia Highlands	Data Processing	104,865	15 (0)	25 (0)
Southside	Data Processing	90,071	15 (1)	21 (1)
Dabney S. Lancaster	Data Processing	77,955	20 (.5)*	30 (1)*
Tidewater	Radio & Television Production	50,569	15 (1)	22 (2)
Patrick Henry	Data Processing	75,000	12 (0)	12 (0)
Patrick Henry	Electrical/Elect.	88,000	32 (0)	32 (0)
Patrick Henry	General Engineering	81,644	13 (1)	26 (0)
Patrick Henry	Automotive	65,000	27 (0)	27 (1)
		$ 915,104	191 (6.5)	255 (6)

College	Major	Cost	Enrollment and (New Faculty) 1984	1985
CATEGORY #1 PRIORITY				
John Tyler	Instrumentation	$ 65,036	20 (0)	40 (0)
TOTAL		$ 65,036	20 (0)	40 (0)
CATEGORY #2 PRIORITY				
Tidewater	Office Admin. & Management	$ 13,137	15 (0)	20 (0)
Tidewater	Air Frame & Power Plant	224,000	20 (1)	26 (0)
Tidewater	Aviation	41,440	12 (1)	18 (0)
TOTAL		$ 278,577	47 (2)	64 (0)
GRAND TOTAL ALL CATEGORIES		$1,824,311	361 (14.5)	520 (11)

*Community College Instructional Assistant (CCIA)

b. Reflect the discipline mix of each college, rather than assume that all colleges have a similar proportional mix of students by discipline.

c. Specify a management judgment regarding the size of the investment for the replacement of equipment and purchase of new equipment.

d. Review items included for fixed costs, but not included in the present model.

e. Provide for reallocation throughout the System, while maintaining each institution's flexibility to place funds in appropriate categories to respond to that institution's unique set of priorities.

f. Provide multi-campus college staffing consistent with the Appendix M approach, as well as utilize the Appendix M Guidelines for full-time/part-time student mix, to provide an appropriate allocation of personnel.

g. Designate programs throughout the System that are equipment intensive and provide appropriate reallocation of equipment dollars to institutions offering more than the normal mix of equipment intensive programs.

2. That a full management review of the pooled revenue concept be conducted by college Deans of Finance and appropriate Systems personnel. (*Master Plan* Goal #8, Objective #1 and #3)

3. That steps be taken with SCHEV to consolidate the VCCS Targeting Model and Appendix M, so that only one budgeting model is used throughout the budget development process. (*Master Plan* Goal #8, Objective #1)

4. That the VCCS develop and implement a computerized system for payroll and other personnel information. This system should be integrated with already existing personnel software used by external state agencies (PMIS), and should automatically feed the accounting system. (*Master Plan* Goal #9, Objective #3)

Recommendations for State-Level Financial Management

1. That extensive discussions occur between System Offices personnel and institutional representatives as the VCCS Targeting Model is further developed. (*Master Plan* Goal #1, Objective #1)

2. That financial and personnel management decisions continue to be made with the involvement of designated personnel from each of the VCCS institutions as well as System Offices personnel. (*Master Plan* Goal #1, Objective #1)

3. That a blue ribbon task force be immediately appointed to study the level at which financial management decisions are made within the VCCS and to study the communication flow between colleges and the System Offices that is necessary to make effective decisions. (*Master Plan* Goal #1, Objective #1)

4. That a System policy be established to address the effects of under-enrollment on college budgets within a fiscal year. (*Master Plan* – Goal #8, Objective #2 and Goal #9, Objective #5)

XI.

FACILITIES

INTRODUCTION

When the Virginia Community College System was founded in 1966, various existing facilities, constructed as branches of senior institutions, and other private facilities as well as Commonwealth-owned vocational-technical facilities, were transferred to the System. At the same time, plans were made to expand and augment those facilities, statewide, to support the instructional programs and services that would be offered to implement the comprehensive community college mission. As funds were made available, colleges or campuses were added. The initial plan was to construct essential facilities first; later, plans were made to expand the basic facilities as the need arose and as funds became available. The priorities and guidelines for such initial construction and the subsequent construction, to be completed in phases, were stated in the *VCCS Policy Manual* and still are a part of that *Manual*. Today, the 23 colleges and 33 campuses of the VCCS are dispersed throughout all geographic regions of the Commonwealth. Some 200 buildings, containing approximately 3.8 million square feet of floor space, are situated on approximately 3,800 state-owned acres. The current estimated value of this physical plant is about $300 million.

In addition to the use of state-owned facilities, colleges lease space in their service areas and share space in various community facilities, such as public school buildings. From its inception, the Community College System has been "community" oriented, and has relied upon community resources to meet the facilities needs of the various colleges and campuses. The shared responsibility for facilities planning and site development between the State Board for Community Colleges and the localities is important to meeting facility needs throughout the System. Localities which the colleges serve provide the land on which colleges are built and they also provide funds for site development. Site development requirements, paid for by localities, have included grading, landscaping, and all paving and utility system costs beyond the building five foot line. State general funds have been administered by the State Board to erect buildings and to outfit them with appropriate moveable and fixed equipment.

The Community College System has benefited greatly, also, from Federal grants used to construct facilities and, in some instances, to pay for site development. Also, the System, along with other state agencies, has benefited from Commonwealth bond issues. The last bond issue, in 1978, resulted in approximately $30 million for community college facilities.

The major purpose of this chapter is to review and make recommendations for three issues that concern facilities planning in future years: 1) the State Board process for review, approval, and prioritization of facilities; 2) Facilities maintenance; and 3) Instructional equipment replacement and enhancement.

FUTURE TRENDS: AN OVERVIEW

Presently, it is generally recognized that no additional community colleges will be built in future years. This does not exclude, however, future consideration of establishing a limited number of campuses or centers to meet the educational needs of developing population centers. The major point that must be emphasized here, however, is that for the System, a significant space deficiency has accrued because facilities development has not kept pace with increases in community college enrollments. Utilizing the guidelines established by the State Council of Higher Education for Virginia for determining facilities needs, the Virginia Community College System, in 1981, identified a gross space deficiency of 1,300,000 assignable square feet (ASF) to meet the enrollments which were then projected through 1986-87. This deficiency is underscored by the fact that for the VCCS, the assignable square feet per full-time student (ASF/FTE) is considerably less than the average ASF/FTE for other institutions of higher education statewide. The VCCS has approximately 56 ASF/FTE as contrasted to the 88 ASF/FTE for other institutions; yet, it enrolled, in 1980, approximately one-third of the full-time equivalent students in all of the state-supported institutions of higher education.

In future years, as the competition among state agencies and institutions for limited resources increases, the present space deficiency, if coupled with the new space required for any increases in enrollments, could also increase. This is a matter of great concern to the State Board for Community Colleges. Although in the past the community colleges have accommodated increasing numbers of students, often without the benefit of sufficient increased space, this is a practice which could, over time, affect the quality of instruction.

To address partially the problems associated with the space deficiency, many alternatives should be fully explored as community colleges develop proposals for future capital outlay projects. One alternative to the construction of new facilities is to encourage colleges to consider use of leased or shared community facilities where practical. Public and commercial facilities, which may be suitable and also cost effective for an educational institution, are located throughout the State of Virginia. The metropolitan areas of the state (Northern Virginia, Richmond, Tidewater) tend to have more leaseable space available than the rural and small communities. As an alternative to new construction, the continued and extended use of leased or shared space should be taken into account throughout the System. Another possible alternative is the reallocation of space and the renovation of existing facilities to meet the changing needs and priorities of college programs. There is a need, too, for colleges to consider the feasibility of electronic and other alternative educational delivery systems when determining overall space requirements. Such alternatives could greatly affect space needs both on and off campus.

In future years, two other issues must be addressed as facilities plans are developed by colleges and the System Offices. One issue is the matter of *facilities maintenance* throughout the System. Most of the new facilities were constructed in the early 1970s and the facilities acquired by the System are yet older. A majority of the buildings are now ten to twelve years old and need significant major repair. The service life of many of the mechanical and electrical systems and structural elements is being approached or has been reached in many buildings. In addition, many colleges have an inadequate number of staff to care for and to maintain existing buildings.

Like the maintenance of facilities, throughout the System, there is a great need to replace instructional equipment. Also like the physical plant, most of the major pieces of equipment were purchased in the early 1970s, when buildings and other facilities were initially constructed. As technologies continue to change, it is important that instructional equipment be updated and new equipment purchased. Early in this planning period, then, careful consideration must be given to the allocation of funds for both facilities maintenance and replacement of instructional equipment throughout the System. Recommendations that address specific issues that relate to facilities maintenance and instructional equipment replacement are provided later in this chapter.

CAPITAL OUTLAY

Throughout this ***Master Plan***, processes used by the State Board for Community Colleges to analyze, review, approve, and set priorities have been described. These processes are one measure by which the Board accounts for the state funds it expends. To analyze and plan VCCS facilities, the Board uses a Capital Outlay process which is the shared responsibility of the State Division of Engineering and Buildings, the State Council of Higher Education, and the Virginia Community College System and its colleges. A description of this entire process is beyond the scope of this ***Plan***, but a major factor in the process is a method for analyzing space needs. This analysis is based upon State Council guidelines and is used by all institutions of higher education to indicate their future capital requirements. For this analysis the SCHEV system is used to assess the use of existing facilities and to determine additional space requirements. This analysis compares existing instructional facilities use with SCHEV utilization standards. It also results in a space demand factor which is used to determine space needs. In a succeeding section of this ***Plan***, several technical recommendations are made concerning VCCS application of the facilities utilization system and its role in determining space needs.

To set System priorities among the capital projects submitted by colleges, the State Board for Community Colleges assesses principally the existing permanent assignable square feet per full-time equivalent student (ASF/FTE). Major consideration is given to the assessments of priorities by each college for its own requests. The Board, in assessing proposed projects and determining relative need for 1982-84, also considered the Governor's emphasis for the biennium upon energy conservation, maintenance of facilities, and providing barrier-free access to public facilities. Special needs of a college for certain facilities that would enable that college to provide comprehensive instruction were also considered, as were other concerns such as college enrollment patterns and new program requirements.

System priorities for approving types of facilities are listed in the *VCCS Policy Manual* (Section 10). Basic facilities are provided initially as shown in Priority 1 below, followed by additions, as required, indicated in 2-8 below.

1. Basic college facilities -
    - Basic instructional classrooms, laboratories, and shops, including facilities to house basic occupational/technical programs;
    - Administrative counseling offices;
    - Learning resources center, including library and learning laboratories (These may be temporary facilities);
    - Basic student study lounge, including vending machines and bookstore;
    - Lecture hall with audio-visual workroom;
    - Faculty offices;
    - Maintenance, receiving, custodial and storage areas.
2. Specialized occupational/technical laboratories and shops to meet local needs.
3. Permanent learning resources center, including library and learning laboratories (programmed materials, audio or language, and visual aids).
4. Permanent student study lounge, including vending machines or snack area, bookstore, and student activity rooms. This area should be planned as part of a building housing other facilities and not as a separate student study lounge building.
5. Additional general classrooms and faculty offices.
6. Physical education and fitness building for non-spectator use, to meet curricular requirements for transfer to four-year institutions. The development of outdoor athletic fields will be the responsibility of the local community college board as part of site development projects.
7. Fine arts center, including instructional facilities for music, art, and drama.
8. Theatre. If and when theatre facilities are constructed, they will be designed to complement and supplement facilities and programs already existing in the community.

Capital priorities for the VCCS are submitted to the State Council and to the Governor. The State Council and the Governor's Office set priorities among capital outlay requests for both two-year and four-year institutions. As a final step, the Governor recommends a State Capital Outlay Budget to the Legislature which, in turn, appropriates funds for selected projects. The process used to review, approve, and set priorities for VCCS capital projects is summarized in Appendix I. In Table I, which follows, a summary of enrollments and assignable Education and General space available for the System is provided. A summary of 1982-84 Capital Outlay proposals and the action taken on the proposals is provided in Table II.

FACILITIES MAINTENANCE

Among initiatives that were taken for the 1982-84 biennium, was the authorization of a Maintenance Reserve Allocation for agencies. The Appropriations Act reads as follows:

> "Expenditures of funds from this item are to be made only for the maintenance of property, plant and equipment to the extent that funds included in the Agency's appropriation for this purpose in Part I of this Act are insufficient. Such expenditures shall be subject to prior review and approval in accordance with rules and regulations prescribed by the Governor. The unexpended balance in the appropriations at the close of business on June 30, 1984 shall not revert to the surplus of the general fund, but shall be carried forward on the books of the State Comptroller."

Under this appropriation to the Community College System, $2,108,470 was provided for the 1982-84 biennium. This reserve fund is a major and important process through which institutions can begin to implement greatly needed maintenance projects. Even with this appropriation, however, the community colleges will still have a residual need.

As the matter is considered further, it becomes apparent that there should be better standards, criteria and guidelines developed and applied, throughout the Community College System, to allocate funds to physical plant routine and exceptional maintenance and repair. In general, the amount of funds required is that necessary to permit the continuous availability of facilities during the engineered life of the facility or system. Further discussion and review of such factors used to determine the amount of needed funds are included in Appendix J to this chapter.

Since improvement in the maintenance of facilities has been identified as a priority requirement by the Chancellor and the State Board, and since future budgets are likely to remain level funded at best, it is obvious that funds must be redistributed to begin making any improvements. The amount of funds applied should be sufficient to reverse the expenditure trends and ultimately must be based on an engineer's assessment and evaluation of requirements that would result from installation of a Maintenance Management System (see Appendix J). Applying the rules of thumb provided in Appendix J, of 12% to 15% of total annual college budgets and $331 per FTE, the annual System expenditures based on 1981-82 Budgets would be:

TABLE I

SUMMARY OF ENROLLMENTS AND ASSIGNABLE E&G SPACE AVAILABLE

COMMUNITY COLLEGE	(1) 1982-83 BUDGETED AFTE	(2) 1982-83 EST* REG SESSION FTE	(3) 1982-83 TOTAL SPACE (ASF) AVAIL.	(4) 1982-83 (ASF) FUNDED 1981-82/1982-84**	(5) ADJUSTED SPACE (ASF) AVAILABLE (3+4)	(6) RATIO: ADJ.ASF / RSFTE
BRCC	1,145	1,062	62,660		62,660	59.0
CVCC	1,995	1,706	90,489		90,489	53.0
DSLCC	735	610	53,774		53,774	88.2
DCC	1,927	1,643	115,653		115,653	70.4
ESCC	240	217	30,349		30,349	139.9
GCC	712	689	43,788		43,788	63.6
JSRCC	5,056	4,476	191,224		191,224	42.7
JTCC	2,282	1,795	101,798		101,798	56.7
LFCC	887	825	43,025		43,025	52.2
MECC	1,166	868	52,201	15,650	67,851	78.2
NRCC	1,644	1,444	76,114		76,114	52.7
NVCC	17,413	15,356	545,029	36,132 EST.	581,161	37.8
PHCC	782	689	71,381	11,005	82,386	119.6
PDCCC	734	468	40,711		40,711	87.0
PVCC	1,687	1,351	59,380		59,380	44.0
RCC	705	606	79,572		79,572	131.3
SSV[illegible]	928	727	72,402		72,402	99.1
SWV[illegible]	1,779	1,413	85,399		85,399	60.4
TNCC	3,749	3,026	139,164	8,300	147,464	48.7
TCC	8,914	7,741	256,464	32,568 EST	289,032	37.3
VHCC	1,022	937	41,834		41,834	44.6
VWCC	3,255	2,864	121,718		121,718	42.5
WCC	1,246	1,094	56,164	26,240	82,404	75.3
TOTALS	60,003	51,607	2,430,293	129,895	2,560,188	

*** Estimated by:** $\frac{\text{1981-82 Actual RSFTE}}{\text{1981-82 Actual AFTE}}$ x 1982-83 Budgeted **AFTE**

****Rennovated Space Not Included**

TABLE II

SUMMARY OF 1982-84 CAPITAL OUTLAY PROPOSALS INVOLVING E&G SPACE

COMMUNITY COLLEGE	TYPE*				DESCRIPTION OF PROJECT	PRIORITIES**			FUNDING		
	S	P	C	R		V	S	FUNDED	STATE	LOCAL	OTHER
BRCC					None						
CVCC					None						
DSLCC				x	ADMIN/WARREN/MOOMAW	R-1	2	YES	1,021,800		
DCC	x				TECHNICAL RESOURCE CENTER	SP	2	NO	25,000		
ESCC					None						
GCC					None						
JSRCC	x				CENTRAL ADMIN & SERV BLDG	SP	6	NO	25,000		
JSRCC-DN			x		PHASE-II - DOWNTOWN	7	N	NO	9,912,500	277,800	
JTCC					None						
LFCC			x		INSTRUCTIONAL BLDG	12	6	NO	5,417,800	460,700	Federal
MECC			x		MINING TECH-SUPPL	11	2	YES	689,950	26,100	302,900
NRCC			x		OCC-TECHNICAL BLDG	13	4	NO	4,439,100	170,100	
NVCC-AL			x		PURCHASE TYLER BLDG	SP	1	YES	1,050,920	822,500	
NVCC-AL				x	REN TYLER BLDG	SP	1	YES	349,080		
NVCC-AN	x				APPLIED ARTS BLDG	SP	N	NO	25,000		
NVCC-AN			x		COLLEGE SERVICES BLDG	3	2	NO	2,293,700RQ	423,300R	
NVCC-AN			x		COLLEGE SERVICES BLDG			YES	380,000F	1,787,500F	
NVCC-AN				x	RELOCATE DP CENTER	R-5	4	NO	300,000		
NVCC-AN				x	RELOC MED TECH LAB	R-9	5	NO	200,000		
NVCC-AN			x		WAREHOUSE MAINT FACIL	N	N	YES	-	350,000 +	Prior Local
NVCC-WO			x		PHASE-II/RENOV PHASE-I	10	6	NO	8,153,400	672,000	
PHCC			x		OCC-TECHNICAL BLDG	15	3	YES	1,300,000	83,300	
PDCC			x		WELDING/AGRI LAB ADDN	5	2	NO	735,200	33,700	
PVCC			x		ADDN TO OCC-TECH BLDG	4	3	NO	3,810,500		
PVCC				x	BICENTENNIAL CENTER	SP	N	NO	395,500	37,800	
RCC					None						
SSVCC				x	REN LABORATORY AREAS	R-6	N	NO	263,600		
SSVCC			x		MAINT & RECIEV BLDG	16	5	NO	93,300	32,600	
SWVCC	x				MINING EDUC BLDG	SP	6	NO	25,000		
TNCC	x				TECHNOLOGIES BLDG	SP	6	NO	25,000		
TNCC			x		AUTOMOTIVE LAB	9	2	YES	388,200	66,000	
TNCC			x		MAINT SERV BLDG	14	5	NO	380,800	55,400	
TCC-FR				x	RENOV SCIENCE BLDG	R-2	4	NO	190,000		
TCC-VB	x				EXPAND LEARNING RESC CTR	SP	3	NO	25,000		
TCC-VB			x		PHASE-II OCC-TECH BLDG	1	1	NO	6,870,569RQ		
TCC-VB			x		"			YES	4,000,000F	463,805	
TCC-VB				x	REN EXISTING PHASE-I	1-A	1	YES	(Incl. Above)		
VHCC			x		LRC/BUSINESS TECH BLDG	2	2	NO	3,570,000RQ	36,400	
VHCC		x			"			YES	300,000F		
VWCC			x		ADMIN OFC & STUD CRT BLDG	8	6	NO	5,297,700	216,400	
VWCC				x	RENOV 5 CAMPUS BLDGS	8-A	6	NO	105,00		
WCC			x		OCC-TECH BLDG-SUPPL	6	N	YES	500,000		Prior Federal

* S=Preplanning Study, P=Plans, C=Construction, R=Renovation, F=Funded, RQ=Requested

** V=VCCS, S=SCHEV, ST=Special, N=None

- 12% of 152,883,768 = $18,346,052

- 15% of 152,883,768 = $22,932,565

- $331 x 60,000 FTE = $19,860,000

These amounts compare with the $13,734,533 actually expended in this area.

The least costly approach to maintenance, however, has long been recognized in cost effective preventative maintenance procedures. With this in mind, the Community College System has initiated pilot Maintenance Management Programs at four colleges. The four colleges, at which the Maintenance Management Programs now are essentially completed, are Central Virginia, Rappahannock, Thomas Nelson, and John Tyler. The essence of such programs are:

- an engineering evaluation of existing conditions;

- a determination of the routine inspections and maintenance procedures recommended by manufacturer and other experienced authorizaties to identify and care for the systems, structures, and other facilities comprising the physical plant;

- writing of detailed instruction for inspection and preventative maintenance procedures;

- a determination of the manpower necessary for the preventative maintenance and inspection efforts; and

- the costing of the manpower, material and other requirements in order to properly maintain the physical plant.

After field testing and debugging the program at the four pilot schools, plans are to draw upon the experience gained, and make available to all the other colleges of the System information necessary for installation of the Maintenance Management Program. While funding of the pilot installations came from System Offices funds, extension and application at the remainder of the colleges are expected to come from college resources.

EQUIPMENT

A major goal of the State Board for Community Colleges is to offer quality instructional programs that prepare students to perform well in job settings. As has been noted earlier, state-of-the-art equipment is essential to achieve these objectives. As has happened with facilities maintenance, the purchase of new equipment has often been deferred. In the short term, the effects of this practice may be negilible. Over time, however, it has resulted in an accumulation of obsolete instructional equipment at many colleges. The resources needed to update instructional equipment throughout the System can only be estimated.

The VCCS Fixed Assets Inventory System records purchase date and cost information, and attempts to establish a life and depreciation schedule for equipment. It falls short, however, of being the tool that is needed to identify individual items and the total resources needed to upgrade equipment. The Community College System could benefit if it examined the systems used by other institutions of higher education. A plan that includes System priorities for addressing equipment needs should then be developed.

Since efforts to obtain additional funds for equipment in the 1982-84 biennium were not successful, it appears that a percentage of VCCS annual funds needs to be set aside for this purpose. This step would ensure that a program of equipment replacement could be initiated soon.

Table III shows that the acquisition cost of moveable equipment, currently owned by the Virginia Community College System, amounts to nearly $63 million. This equipment has been acquired over a period of many years, at the item cost existing at the time. Probably the current replacement cost for this equipment would exceed $100 million. As technology advances, the cost will likely increase, with the possible exception of some ADP equipment. If such equipment, overall, had an average 15-year life, at least $7 million per year in constant dollars would be required on a continuing basis to replace worn out items. A case can be made that 10 years is a more appropriate service life for a significant portion of that equipment, with functional obsolescence, rather than wear on equipment, being the primary reason for the need for replacement.

Under these circumstances, probably funds in the amount of $8 to $10 million would be required annually just to stay even with the continuous requirement for equipment replacement. For the System, this amount is contrasted to the approximately $3.5 million per year that has been spent, exclusive of Capital Outlay fund equipment, in past years. These expenditures, as well as those for physical plant maintenance and operation, are shown in Table IV.

TABLE III

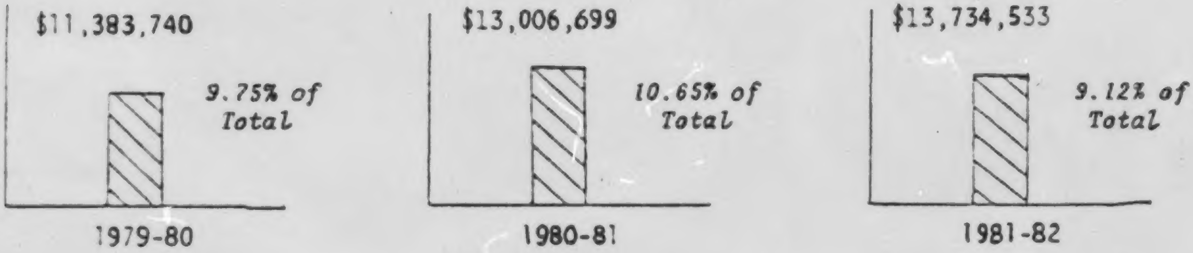
SUMMARY OF MOVEABLE EQUIPMENT ACQUISITION COSTS

Community College	Acquisition Costs ($-rounded)
BRCC	1,206,000
CVCC	2,477,000
DSLCC	1,152,000
DCC	2,786,000
ESCC	1,111,000
GCC	947,000
JSRCC	5,227,000
JTCC	1,407,000
LFCC	1,170,000
MECC	1,210,000
NRCC	2,366,000
NVCC	13,837,000
PHCC	965,000
PDCCC	815,000
PVCC	1,410,000
RCC	1,484,000
SSVCC	1,094,000
SWVCC	2,336,000
TNCC	4,883,000
TCC	6,953,000
VHCC	1,867,000
VWCC	3,628,000
WCC	1,839,000
System Offices	752,000
TOTALS	**62,922,000**

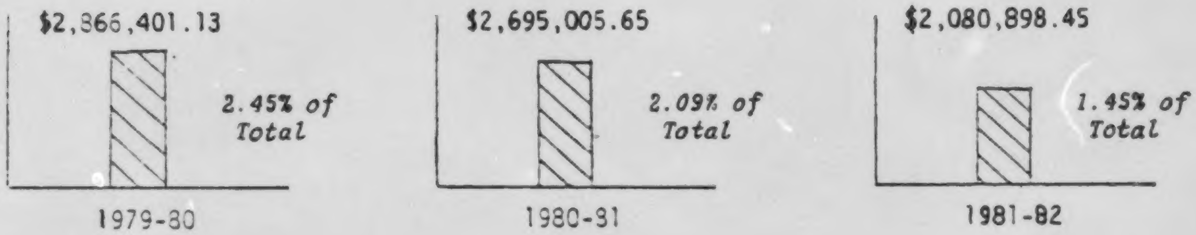
TABLE IV

SUMMARY OF 1981-82 EXPENDITURES FOR PHYSICAL PLANT MAINTENANCE AND OPERATION AND PURCHASES EQUIPMENT

OPERATION & MAINTENANCE OF PLANT



EDUCATIONAL EQUIPMENT



ALL EQUIPMENT
(1981 - 1982)

Capital Outlay Funds	$1,809,115
Non-Capital Outlay Funds	3,532,796
Total	$5,341,911

FINDINGS AND RECOMMENDATIONS

Maintenance of Facilities

Issue 1. For the VCCS overall, insufficent resources have been devoted to the maintenance and upkeep of existing facilities to permit them to fulfill their intended functions for their designed life. Based on the best information available, the shortfall appears to be in the order of 5 to 9 million dollars annually.

Recommendation. (*Master Plan*, Goal #4 and Goal #8, Objective #5)

The VCCS reallocate system resources at the earliest possible opportunity to provide additional resources for maintenance and upkeep of existing facilities, with the amount of the increase being $5 million per year initially until better information is available on which to base an adequate budget.

Issue 2. Relatively minor and routine preventive-type maintenance and repair can be accomplished under the management, direction and control of individual colleges; planning, funding, control and accomplishment of major maintenance are accomplished best centrally.

Recommendations. (*Master Plan*, Goal #4 and Goal #8, Objective #5)

1. That funds allocated for maintenance be encumbered for use only on maintenance and upkeep of existing facilities, unless justification is provided to and approved by the Chancellor for deviation from this policy.

2. The VCCS establish a central Major Maintenance and Repair Fund for use in major maintenance and repair projects systemwide. The funds would be used to supplement the Capital Outlay Maintenance Reserve Allocation, as necessary, and would be taken from System funds. The amount of the fund should be based on an assessment of overall need, and it should vary as need changes.

Issue 3. Proper and judicious planning, budgeting and application of resources to the maintenance of physical plant is best accomplished as part of a formalized Maintenance Management Program at each college.

Recommendations. (*Master Plan*, Goal #4 and Goal #8, Objective #5)

1. Colleges take action in conjunction with the System Offices to install formalized Maintenance Management Programs at all colleges prior to January 1, 1984.

2. Colleges apply dollar and personnel resources to the maintenance and upkeep of existing facilities consistent with such Maintenance Management Program assessment of needs at each college.

3. Further consideration be given to the best means of accomplishing routine maintenance of facilities, including the feasibility of establishment of regional maintenance centers which would serve several colleges/campuses in a given geographic area.

Issue 4. Individual colleges and the VCCS overall can benefit from a material condition inspection on a periodic basis by persons outside of the college. The purpose of such an inspection is to provide an overview and evaluation of existing conditions and maintenance efforts at each college.

Recommendation. (*Master Plan*, Goal #4 and Goal #8, Objective #5)

A team composed of System Offices personnel and selected personnel from the colleges conduct material condition inspections at the colleges, with a schedule being formulated which would result in such inspections being done at all colleges on a biennial basis. Reports of the inspections would be given to the Chancellor, and to the individual college presidents for appropriate action.

Issue 5. The accomplishment of energy conservation measures resulting from an engineering assessment of existing plant and plant operations can result in significant savings at all colleges. Such savings opportunities include the installation and use of automated energy management systems to control equipment and energy use.

Recommendation. (*Master Plan*, Goal #4 and Goal #8, Objective #5)

The VCCS proceed, as expeditiously as possible, to take currently identified energy conservation measures, including the installation of automated energy management systems where shown to be cost-effective. Use of available maintenance and operating funds for this purpose, to augment funds from other sources, should be encouraged.

Equipment

Issue 1. For the VCCS overall, insufficient resources have been devoted to the replacement of instructional and other equipment. Based on the best information available, the shortfall appears to be in the order of $4.5 to $6.5 million annually.

Recommendations. (*Master Plan*, Goal #4, Objective #3 and Goal #8, Objective #5)

1. The VCCS begin immediately to redress the equipment shortfall funding problem through the reallocation of existing resources to provide initially an increase of $4.5 million annually for equipment purchases, until better information is available on the magnitude of the deficiency and the need for resources in this area.

2. Individual colleges and the VCCS undertake an in-depth study to identify total equipment requirements and to produce

a comprehensive VCCS Equipment Plan required also by the Department of Planning and Budget. In view of the importance of the matter, it is recommended a VCCS Equipment Planning and Evaluation Task Force be appointed by the Chancellor to develop the plan.

3. The VCCS establish a central Major Equipment Fund for use in carrying out the VCCS Equipment Plan.

Capital Outlay

Issue 1. The identification and determination of individual college and overall VCCS space needs require improvement.

Recommendations. (Master Plan, Goal #4)

1. Colleges eliminate errors in the data that are used to derive permanent space requirements by giving increased attention to initial data collection and reporting, and by testing and debugging data before it is transmitted to SCHEV. This process can be enhanced through use of the currently available VCCS version of the FIA Room Inventory System and the VCCS Facilities Utilization System Enhancements (FUSE) software.

2. Colleges give increased attention to identifying functional adequacy of existing space (quality and suitability of assets) and the careful documentation of need for renovation in the Room Inventory Report.

3. The VCCS continue efforts with SCHEV to obtain changes in the SCHEV methodology which tend to place the VCCS at a disadvantage because of (i) the unique operations of the VCCS related to bi-modal periods of facilities use (8:00 a.m. to 3:00 p.m. and 6:00 p.m. to 10:00 p.m.); (ii) the assumption that all leased space is controlled and available for college use full-time; (iii) insufficient refinements relating to facilities use that represents demand for permanent space and (iv) non-representative utilization statistics.

4. The colleges and the System Offices carefully assess alternatives, including a thorough evaluation of the feasibility of use of leased/shared space, and available State facilities which may be economically available in the service area; and of the feasibility of employing alternate modes of instruction; and reallocation and renovation of existing space before considering and requesting new construction.

5. Colleges limit project requests to those which are at least 90% SCHEV guideline justified, in order to enhance approval possibility, unless exceptional justification is presented.

6. Colleges and the VCCS maintain project documentation up-to-date each biennium, to reflect total valid needs and to enhance the possibility of benefiting from any future Commonwealth Bond issues.

7. As facilities planning necessary for the current VCCS master planning effort, the colleges and the VCCS review and begin early preparation of the overall Property Development and Comprehensive Site Plans for VCCS colleges. The plans should cover a twelve to twenty year time span and reflect overall property/plant needs forecasts as required in the Commonwealth Planning and Budget Manual.

Issue 2. The procedures and methodology for assessment of VCCS priorities among capital projects need to be enhanced to better reflect relative need.

Recommendations. (Master Plan, Goal #4)

1. The available assignable square feet per full-time equivalent student priority factor (ASF/FTE) be based on existing available and satisfactory, owned, permanent assignable square feet (OASF), plus existing available and satisfactory leased assignable square feet (LASF), divided by the approved projection of full-time equivalent students, regular session, for the planning year (RSFTE).

2. The utilization of permanent classroom and class laboratory space, to be derived using FUSE, be compared with SCHEV guidelines and standards, and the results be used as an indicator of priority. Colleges that make better use of existing assets should be given higher ranking.

3. Colleges submit a one page summary of project requests, providing pertinent space, dollar and justification data in a concise, set format, for ease of project review and assessment by the Chancellor and staff, the State Board and others. This would be in addition to other documentation submitted, and on a format provided by the System Offices.

XII

SUPPORT SERVICES

INTRODUCTION

The Virginia Community College System as a member of Virginia's higher education community is dedicated to providing high quality educational programs tailored to a broad range of needs of the Commonwealth and its citizens. The VCCS as a large and complex organization of twenty-three comprehensive community colleges and a central administrative office must be concerned with its many and varied functions that ensure that the organization operates in a highly effective and efficient manner. The support services provide the means to ensure optimum functioning of all aspects of the VCCS.

This chapter will address three major categories of support services. (1) Instructional and Academic Support Services provide for the administration of the educational programs; provide learning resources, including libraries, to meet student and faculty educational needs; provide for curriculum development processes; provide for nontraditional learning services; provide academic computing support to instruction; and provide cooperative education services applicable to the needs of students, the colleges, and employers. (2) Student Development Services provide essential services, primarily to students, that facilitate student interaction and success in the educational programs and campus life activities of the college. These services range from recruitment, admissions and registration of students, through educational, career, and personal counseling, to graduation and job placement or transfer for additional higher education. (3) Institutional Support Services ensure that the many day-to-day needs of the colleges and the VCCS are served through a variety of specialized functions that include personnel, accounting, payroll, administrative computing, physical plant maintenance, etc.

The sections that follow describe each of the major support services, identify key issues and provide recommendations for future direction for the Virginia Community College System.

INSTRUCTIONAL AND ACADEMIC SUPPORT SERVICES

Academic Administration

Purpose - The purpose of Academic Administration is to develop, manage and evaluate a trained faculty and a strong educational program. Academic Administration has traditionally included various college personnel including program heads, division chairmen, deans of instruction, and provosts. Academic Administration includes a range of services from curriculum planning and development, to evaluation of admissions and registration, to the monitoring and assessing of academic support services.

Issues

1. Need to examine and determine number and type of academic administrators needed for efficient and effective management at institutions of varying size.

2. The form of academic administration necessary at the VCCS System Offices level.

3. Need to identify the type of organization and governance that best supports the academic administration of the VCCS.

Recommendations

1. That decisions, in general, regarding academic administration and management be made at the lowest effective level within the VCCS. (*Master Plan* Goal #1, Objective #1)

2. That the VCCS develop an improved professional development approach for preparing and retaining high quality academic administrators. (*Master Plan* Goal #3, Objective #5)

Learning Resources

Purpose - The primary purposes of Learning Resources Services in the Virginia Community College System are to provide assistance in the development of instructional systems and to provide an organized and readily accessible collection of materials and supportive equipment to meet institutional, instructional, and individual needs of students and faculty. To achieve these purposes Learning Resource Centers (LRC) were created and defined to include library services, audio-visual services, learning laboratory services, and to encompass instructional development, functions and technology-based delivery systems.

Issues

Issues concerning staff:

1. Professional and staff development funds to maintain current awareness of trends and advances in new technologies and services.

2. Adequate staffing under Appendix M, Staffing Guidelines, for two-year college libraries.

3. The allocation of support staff to the LRC, especially in the audio-visual and learning lab service area where no guidelines for staffing are provided.

Issues concerning resources:

1. The acquisition and accessibility of library and media resources to support new program and curricular development.

2. The provision of resources at a level to meet standards of the Southern Association of Colleges and Schools.

3. The impact of inflation on the cost of published materials and media products.

Issues concerning facilities and equipment:

1. The provision of funds to maintain state-of-the-art investments in instructional equipment, and instructional technology, including standard uses of telecommunications and computer storage of library holdings and records.

2. The provision of funds for advanced telecommunication technology and instructional equipment to support the off-campus delivery of instructional programs.

3. The adaptation or renovation of existing facilities to accommodate video production, cable television, learning lab services, library and equipment storage, and other functions of instructional support.

Issues concerning services:

1. The utilization of alternative instructional delivery systems to maintain and increase the accessibility of community college programs.

2. The utilization of technology-based instructional delivery systems to provide instructional support, programs to industrial training sites.

3. Maintenance of an up-to-date collection of learning materials responsive to changing curricular demands.

Issues concerning institutional relationships:

1. The role of the LRC within the VCCS, including organizational structure, personnel status, and goals.

2. Cooperative activities for information resources development, acquisition, and delivery.

Recommendations

1. That the VCCS establish a Systemwide acquisition and utilization system for the development of telecourses. (*Master Plan* Goal #6, Objective #4)

2. To establish a flexible mechanism for cooperation which will enable the VCCS and each of the individual colleges to expand and improve instructional resources and technology in a more effective and efficient manner. (*Master Plan* Goal #6, Objective #4)

3. That a review of VCCS policies and procedures regarding issues as faculty workloads, awarding of educational credit, faculty/student ratios, and reporting systems be conducted to accommodate the expanded application of telecommunications and other alternative instructional delivery systems. (*Master Plan* Goal #6, Objective #4)

4. That funding and staffing guidelines and patterns for Learning Resource Centers be reviewed to ensure adequate support. (*Master Plan* Goal #8, Objective #5)

Curriculum Development

Purpose - The purpose of curriculum development in the VCCS is to develop and maintain quality academic programs and courses which reflect the most current advancements of knowledge and technology. Curriculum development provides for periodic review of existing courses and curricula to ensure their relevance to current advancements of knowledge in related academic fields, and to ensure that occupational/technical curricula are meeting the manpower needs of Virginia's businesses and industries.

Issues

1. Need to improve methods of assessing the education and training needs of business, industry and government.

2. Need to improve on ways of attracting, maintaining and developing competent faculty and staff.

3. Need to resolve scheduling and financial constraints in providing faculty release time needed to evaluate and enhance the curricula.

4. Need to address the problem of limited resources for faculty development of new skills and knowledge needed in order to effectively carry out necessary course and curricula enhancements.

5. Need to provide more cooperative activities and information sharing among VCCS colleges and with other educational institutions as a means of minimizing unnecessary curriculum duplication and provide an effective means for curriculum development.

6. Need to resolve the problem of the lengthy curriculum review and approval process at the State level which tends to inhibit community college responsiveness to local and regional educational requirements.

Recommendations

1. That the VCCS develop a statement of philosophy regarding curriculum development.

2. That VCCS colleges continue and expand involvement of faculty, administrators, students and appropriate community resource persons in the curriculum development process.

3. That the VCCS work cooperatively with other institutions of higher education to achieve optimum articulation of curricula and mutual transferability of courses. (*Master Plan* Goal #7, Objective #1 and #3)

4. That adequate funded released time be provided to VCCS faculty members for approved curriculum development projects. (*Master Plan* Goal #8, Objective #5)

5. That a more systematized approach be established between colleges on the regional and Statewide level to ensure consistency in the development of new or revised curricula when such curricula are to be offered by different institutions. (*Master Plan* Goal #6, Objective #2)

Non-Traditional Learning Services

Purpose - Various non-traditional learning services are provided by VCCS colleges to assess the individual student's academic or academically related experiences gained outside of traditional higher education settings and to award either credits toward an educational degree, diploma, or certificate or to waive credits normally required in a specific academic program. Examples of non-traditional learning that could be evaluated for credit include occupational experience, military training, the College Level Examination Program (CLEP), and institutional examinations for credit in specific courses.

Issues

1. Lack of uniform standards and procedures for the assessment of non-traditional learning in the VCCS, including procedures for awarding and documenting credits earned.

2. The need for specific policies, guidelines, and standards for the transfer of non-traditional credits among VCCS colleges and to four-year colleges and universities.

Recommendations

1. That the VCCS review programs, policies, and procedures related to alternative ways to earn academic credit. (*Master Plan* Goal #5, Objective #5)

2. That the VCCS develop guidelines pertaining to the transfer of non-traditional learning credits within the System. (*Master Plan* Goal #5, Objective #5)

3. That the VCCS develop articulation agreements between the VCCS and four-year institutions of higher education in Virginia pertaining to the transfer of non-traditional learning credits. (*Master Plan* Goal #7, Objective #1 and #3)

Academic Computing

Purpose - The purpose of academic computing is the application and management of computer technology to enhance and extend the teaching/learning process. Academic applications of computers in VCCS colleges encompass a broad spectrum of instructional uses, as noted in Appendix B; "Academic Applications" of the *VCCS Master Plan for Computing Services* (May, 1981).

Issues

1. The increasing demand for technology-based instruction which will extend and diversify the delivery of academic programs.

2. The increasing demand for computer literate graduates from a wide variety of instructional programs.

3. The recruitment and retention of qualified data processing/computer technology faculty.

4. The need for increased academic computing capability in terms of computers and software.

5. The recognition and use of academic computing as an alternative method of instructional delivery maintaining accessibility to education.

6. The need for curriculum development and faculty development resources for computer-assisted instruction.

7. The need for additional resources for implementing academic computing services and programs.

8. The need for support staff and faculty skilled in computer software development and instructional design.

Recommendations

1. That the VCCS establish a flexible and viable cooperative structure which will enable the VCCS and each of the individual colleges to expand and improve instructional resources and technology in a more effective and efficient manner. (*Master Plan* Goal #6, Objective #4)

2. That more learning opportunities be developed, using the computer and associated instructional materials, for faculty and students for educating them about computing and data processing concepts.

3. That the next update to the *VCCS Master Plan for Computing Services* include greater recognition and commitment to academic computing; as well as the specific issues of word processing, microcomputer applications, software development, support staff for designing and programming educational software, and funding strategies to fully implement academic computing plans. (*Master Plan* Goal #9, Objective #3)

Cooperative Education

Purpose - Cooperative education at colleges within the Virginia Community College System is an academic and human development program which integrates the student's classroom study with related work experiences in business, industry, government or professional associations. The program combines practical experiences in the work setting with the theory and knowledge of the academic curriculum. The work experience is related as closely as possible to the student's academic and career goals.

Issues - The primary issue involves the expansion of cooperative education to other community colleges in the VCCS in view of limited availability of State resources and federal cooperative education grants.

Recommendations

1. That the VCCS expand cooperative education to all colleges within the System which could benefit from such a program. (*Master Plan* Goal #6, Objective #3)

2. That the VCCS examine funding criteria for support of cooperative education programs.

3. That the VCCS examine the expanded use of cooperative education to supplement reduced financial aid to students. (*Master Plan* Goal #8, Objective #6)

4. That the VCCS articulate the transfer of cooperative education credits to four-year institutions within the Commonwealth. (*Master Plan* Goal #7, Objective #1 and #3)

5. That the VCCS study the impact of cooperative education on the employment of students graduating from the Virginia Community College System. (*Master Plan* Goal #9, Objective #2)

STUDENT DEVELOPMENT SERVICES

Purpose

Student development services exist to provide assistance to students in pursuit of their educational goals and to promote the personal development of students and members of the community who utilize college services. These services, which are generally non-instructional, augment the colleges' instructional objectives and assist students in the educational process. Student development services professionals work in partnership with the academic faculty to aid students in decision-making, problem-solving, values clarification, and in the development of life-long personal skills.

The core of student development services in the VCCS is a comprehensive program of counseling, career information assistance, and academic advising services for all students. The original mission statement of the VCCS singled out the significant role of Counseling and the 1981 revisions by the State Board for Community Colleges broadened the statement to encompass all student development services. Important support services in the areas of admissions, student records, new student orientation, and student financial aid are also provided by each VCCS college as elements of its student development services. The general scope of student development services programs in the VCCS are as follows:

Admissions
Alumni activities
Appraisal services - testing and evaluation (non-academic)
Career development
Counseling - educational, personal and career
Curricular program placement
Financial aid for education
Graduation/commencement support activities
Health services
International student activities
Job development and placement services
Liaison and consultation with faculty, colleagues, administration and community
Orientation to college programs
Registration for courses
Special programs for disabled, disadvantaged, etc.
Staff development and inservice training for student development services staff and other areas of the college and community
Student activities/intramural sports activities
Student discipline
Student grievances
Student records
Student research (research utilizing data about students)
Transfer articulation (transfer from community college to other levels of higher education)
Tutorial programs
Veterans activities

Issues

1. Funding

   a. Determination of an adequate funding level needed to support comprehensive student development services.

   b. Provision of adequate student financial aid resources to needy students with ability to benefit from VCCS educational opportunities.

2. Accessibility

   a. Ensuring admissions opportunities for all students who can benefit from services and educational programs, including handicapped, disadvantaged, and gifted students.

   b. Need for a comprehensive articulation program between VCCS and Virginia's public and private schools, colleges and universities.

   c. Need for consistent policies regarding non-traditional credit and placement testing among VCCS colleges.

3. Accountability

   a. Development of programs to measure and improve student retention.

   b. Evaluation of VCCS job counseling and transfer assistance services.

   c. Improved planning and evaluation methods for student development services.

4. Staffing and Administration

   a. Determination of an appropriate ratio of students to counselors for the VCCS.

   b. Increased involvement of student development services administrators and staff in the management of VCCS colleges.

   c. Determination of a minimal essential core of student development services to be provided by VCCS colleges.

   d. Determination of an administrative structure that will provide the most effective supervision and delivery of student development services.

   e. Need a formal assessment of the relationship to and contribution of student development services to academic programs and the overall goals of the institution.

Recommendations

The diminishment of available resources and fiscal pressures have the potential to reduce the range and quality of student development services offered in the VCCS. The diverse backgrounds of students served by the VCCS and their need for supportive services require a renewed and continuing commitment by the VCCS to student development services. Increasing emphasis on accountability to taxpayers and demands for quality education and services, mandate that an effective and efficient core of student development services supplement productive and quality academic programs. Therefore, the following recommendations are offered in priority order:

1. That the VCCS identify the essential core of student development services needed by the VCCS and establish quantitative and qualitative evaluation measures for those essential services. (*Master Plan* Goal #5, Objective #5)

2. That VCCS staffing guidelines be studied to ensure adequate support for counseling, admissions, records, and financial aid services at the college. (*Master Plan* Goal #3, Objective #3)

3. That the VCCS identify and pursue private resources for student financial assistance to supplement State and federal sources. (*Master Plan* Goal #8, Objective #6)

4. That the VCCS conduct a study to measure and improve student retention. (*Master Plan* Goal #9, Objective #5)

INSTITUTIONAL SUPPORT SERVICES

Introduction

Institutional Support Services incorporate a number of services that are operated through a variety of staffing structures in the VCCS. In general, the following list represents the fiscal, administrative and logistical services provided by each college and/or the System Offices.

Executive Management
Administrative Computing Services
Personnel
Accounting
Payroll
Purchasing
Budgeting
Communications and Mail Services
Information/Public Relations Services
Physical Plant Maintenance and Operations
Reprographics
Research, Planning, and Evaluation
Security
Affirmative Action/Equal Employment Opportunity
Staff Development
Auxiliary Enterprises (e.g., Food Services and Bookstores)

Administrative Computing Services; Research, Planning and Evaluation Services; and Professional Development are discussed more fully in this section along with recommendations regarding Accounting, Payroll, and Purchasing services. Several institutional support services are related to other chapters in the *Master Plan*. These services and their respective locations in the *Plan* are given below:

Support Services	Chapter Location
Executive Management	Chapter VI
Public Relations	Chapter VI
Affirmative Action/Equal Employment Opportunity	Chapter IX
Personnel	Chapter X
Budgeting	Chapter X

Administrative Computing Services

Purpose - The primary purpose of VCCS Administrative Computing Services is to facilitate the achievement of VCCS goals and objectives more effectively and efficiently through the design, development and application of computer-based information systems.

The *VCCS Master Plan for Computing Services* (May, 1981) sets forth the direction for providing computing services and satisfying data processing requirements for the Virginia Community College System during the decade of the 1980s. The *Plan* provides a review of current VCCS computing capabilities and deficiencies, presents the VCCS strategy of a distributed computing network for meeting the future computing services requirements of the System Offices and the colleges, and establishes a working calendar for implementing the *Plan's* strategies. The *Plan* details overall direction for the VCCS up to the end of the 1982-84 biennium. The narrative also attempts to describe, in general, plans through the 1984-86 biennium. The contents of the *Master Plan for Computing Services* is shown in Appendix K of the *VCCS Master Plan*.

Issues - The Issues Survey conducted as part of the VCCS master planning process identified that seventy percent of the colleges in the System indicated a strong, "need for a data services master plan with adequate computing resources at each college and campus; and less stringent central control of data processing." The specific needs and issues regarding administrative computing support are detailed in the May 1981 *Master Plan for Computing Services*.

Recommendations

That the VCCS achieve the following goals for computing services as listed in Chapter 7 of the *VCCS Master Plan for Computing Services* (May, 1981):

1. Satisfy data processing requirements for colleges and the System Offices through effective acquisition and use of resources.
2. Support the VCCS mission and the VCCS Executive Management philosophy through data processing and computational capabilities.
3. Minimize the duplication of resources by encouraging a high degree of compatibility in general systems software, data base/data communications software, interactive and batch retrieval software, and applications/analytic software.
4. Meet external and internal reporting requirements in terms of data accuracy, appropriateness, timeliness and accessibility.
5. Emphasize flexibility in the design of the distributed computing configuration to permit cost-effective hardware/software alternatives.
6. Develop applications reflecting the administrative and academic processes of the college rather than the organization of the college and VCCS System Offices.

7. Provide networking, shared software, network backup and load balancing to the extent such capabilities are cost-effective.

8. Encourage information exchange, user input, and promote consensus within the VCCS.

9. Establish a computing environment which reflects the state-of-the-art technology and enhances computer literacy throughout the student body, faculty, and staff of the colleges and System Offices.

10. Provide a strong central mechanism for planning, auditing, governing, and coordinating data processing for the VCCS.

Institutional Research, Planning, and Evaluation

Purpose - The Research, Planning, and Evaluation (RPE) services provided by VCCS colleges and the System Offices support the data and information requirements of each college, and external agencies and organizations concerned with Virginia's community colleges. Historically, the Virginia Community College System has provided extensive amounts of data to meet reporting requirements of Federal and State governmental agencies regarding enrollments, financial aid, course offerings, etc. Likewise, internal needs for data that describe various aspects of the institutions, especially students, and special projects requiring research support have necessitated services in the areas of research and institutional studies.

Issues

1. An increasing need to assess college effectiveness and efficiency in various areas and to plan future directions to be taken by the institutions and the VCCS in view of leveling enrollments and limited resources.

2. College and Systemwide master planning and comprehensive evaluation studies have markedly increased during 1980-1982 and are expected to continue over the decade.

3. Forty percent of the VCCS colleges responding to the Issues Survey conducted as part of the *VCCS Master Plan 1982-1990* indicated, "a need for a commitment to and more resources for research and planning."

4. Increasing demands by external groups for information that describes and analyzes activities and evaluates the performance of the VCCS.

5. College and VCCS management will require increasing sophistication in the techniques they use to support decisions regarding enrollment, financial resources, educational programs, benefit-cost concerns, etc.

Recommendations

The following are recommendations **for the** Research, Planning and Evaluation support services area:

1. That ***VCCS Master Plan*** Goal #5 - "To implement a Systemwide process, which includes both qualitative and quantitative measures, for the systematic evaluation of instructional programs and student development services," be fully implemented.

2. That the VCCS ensure adequate resources to implement the objectives established under Goal 9 of the *VCCS Master Plan* - "To maintain comprehensive Systemwide and institutional planning, research, and evaluation capability."

3. That the VCCS continue efforts to design new computer-based data systems and refine existing data systems towards improving effectiveness and efficiency in carrying out the functions and activities provided by the research, planning and evaluation services of each college and the VCCS System Offices. (*Master Plan* Goal #9, Objective #3)

4. That a study be conducted to examine existing research, planning and evaluation resources in the VCCS with special attention to improving RPE support for smaller colleges. (***Master Plan*** **Goal** #9)

Accounting and Payroll

Purpose - **The VCCS Accounting function** manages those processes concerned with the receipt and disbursement of funds used to operate the colleges and the System Offices. The VCCS operates an internal computer-based accounting system that interfaces with the State of Virginia accounting system. College transactions using the accounting systems are analyzed and reconciled by the central accounting function at the System Offices which also prepares the official financial statements for the State Board for Community Colleges and the state Auditors. The control of standards and uniform procedures is the responsibility of the System Offices. The Payroll function is primarily a centralized process heavily supported by a computer-based system that maintains and prepares payroll information for the state Comptroller's Office.

Issues

1. **Need to** increase local college responsibilities and capabilities for day-to-day accounting operations and processing part-time **employee payroll** information.

2. **Need** enhanced automated support for the accounting functions, especially a personnel/accounting systems interface.

3. **Need** an ongoing training and staff development program for college accounting and payroll personnel.

Recommendations

1. That the VCCS provide adequate resources towards full implementation of the *VCCS Master Plan for Computing Services* to facilitate a timely development of additional administrative data processing support for the accounting function and of enhancements to the payroll system. (*Master Plan* Goal #9, Objective #3)

2. That the VCCS plan, develop, and implement an ongoing staff development and training program for college and System Offices personnel working in the accounting and payroll areas. (*Master Plan* Goal #3, Objective #5)

Purchasing

Purpose - The Purchasing function within the colleges and System Offices is responsible for the procurement of equipment, supplies, and services to support the operations of the VCCS. The purchasing function also handles the transfer and disposal of surplus equipment and property. Purchasing operations are tied closely to the Accounting function and rely on the accounting data system for information needed to carry out many purchasing functions. Purchasing services at a central level reside with the Purchasing Section of the VCCS System Offices. Purchasing specialists or clerical staff with purchasing duties perform specific purchasing functions at the college level. The central purchasing function provides review, oversight, and processing services for the VCCS and liaison with the Division of Purchases and Supplies, the state's purchasing agency.

Issues

1. Purchasing services provided by the VCCS should increasingly occur at the local level as each college gains improved capability for handling the various purchasing processes.

2. Need for additional training of college staff performing purchasing functions, and a need for college and System Offices purchasing staff to participate more fully in the training programs offered by the state Division of Purchases and Supplies.

Recommendations

1. That the VCCS continue to seek additional responsibility and autonomy from the state for decisions and approvals regarding purchases for the System.

2. That as the colleges are better able to enhance their support of the purchasing function, the responsibility for processing increasingly be delegated to the colleges with appropriate consideration given to the staffing needs of the colleges. The VCCS Purchasing Section would serve more in an advisory and oversight role. (*Master Plan* Goal #1, Objective #1)

3. That the VCCS central Purchasing Section and the colleges continue to identify training needs and provide appropriate staff development and training opportunities. (*Master Plan* Goal #3, Objective #5)

Professional Development

Purpose - The purpose of professional development is to provide faculty and staff with the opportunity to gain skills, knowledge, qualifications, and experience which will enable them to improve teaching and educational services, and to accomplish college and personal goals and objectives. VCCS professional development activities have been implemented at the institutional level and supplemented by appropriate activities at the campus, division, program, and individual levels. The design of such activities focus upon the improvement of faculty and staff morale, human relations and job efficiency. The types of professional development activities typically offered through VCCS colleges include:

1. Tuition assistance for classified staff;
2. Educational aid for faculty;
3. Educational leaves of absence with/without pay for faculty;
4. Management development for administrative staff;
5. Curriculum/program development for faculty and staff.

Issues

1. Continually changing educational programs which call for the updating and retraining of faculty and staff.

2. Increasing faculty efficiency and productivity requirements.

3. Increasingly limited financial resources for professional development.

Recommendations

1. That each community college develop a comprehensive professional development plan to include management development and faculty and staff development. (*Master Plan* Goal #3, Objective #5)

2. That the VCCS encourage and support faculty and staff participation in professional development opportunities. (*Master Plan* Goal #3, Objective #5)

3. That budgetary support be improved for faculty and staff development. (*Master Plan* Goal #3, Objective #5)

Appendix A

SUMMARY

MAJOR ISSUES OF THE 1980s SURVEY

VCCS SUMMARY - CATEGORY X
MAJOR ISSUES OF THE 1980s

	Major Issue	College	Total
I.	ADEQUATE FUNDING TO IMPLEMENT COMPREHENSIVE MISSION	DSLCC; ESCC; JSRCC; LFCC; NRCC; NVCC; PHCC; PDCCC; PVCC; RCC; SSVCC; SWVCC; TNCC; TCC; VHCC; VWCC; WCC	17

Related Issues:

1. Need for alternative funding formulas which use a standard other than full-time equivalent student (FTES).
2. Need for full funding (100%) for current budget guidelines.
3. Differential funding for degree programs and community education.

II.	FUTURE OF UNIQUE AND COMPREHENSIVE MISSION	CVCC; DSLCC; GCC; JSRCC; LFCC; NRCC; PHCC; PDCCC; RCC; SWVCC; TNCC; TCC; WCC	13

Related Issues:

1. Limitations on mission imposed by external evaluators such as the State Council of Higher Education and the General Assembly. Program areas affected include non-degree credit offerings, such as vocational development courses, teacher certification, and developmental studies programs.
2. Degree of commitment to mission by the State Board for Community Colleges; State Council of Higher Education; the General Assembly; and the general public.
3. Maintenance of uniqueness of each college within the VCCS to meet regional needs.
4. Inequities between two- and four-year institutions in areas such as athletic, social, and cultural programs; salaries and compensation.

	Major Issue	College	Total
III.	INSTITUTIONAL AUTONOMY VERSUS STATE AND FEDERAL REGULATION AND CONTROL	DCC; JSRCC; LFCC; NVCC; PHCC; PVCC; RCC; SSVCC; TNCC; TCC; VWCC	11

Related Issues:

1. Local college decision-making flexibility, particularly in use of financial resources.
2. The role of the System Offices, particularly in budgeting, accounting, personnel, and academic areas. The roles of the Local Boards and Presidents.

IV.	RECRUITING, DEVELOPING, AND RETAINING QUALIFIED FACULTY AND STAFF	CVCC; DCC; ESCC; GCC; JSRCC; MECC; NRCC; PVCC; VHCC; VWCC; WCC	11

Related Issues:

1. Funding for professional development (faculty and staff).
2. Appropriate full-time/part-time faculty mix.
3. Increases in faculty/student funding ratios.
4. Need for faculty evaluation process.

V.	MAINTAINING QUALITY INSTRUCTIONAL PROGRAMS	BRCC; CVCC; JSRCC; JTCC; MECC; NRCC; NVCC; SSVCC; SWVCC; VWCC; WCC	11

Related Issues:

1. Need for evaluation processes for programs and courses which are based on changing needs of service area and available employment opportunities; need for flexible time frame in which to begin new programs; need criteria to be established for discontinuing programs.
2. Need to develop alternative measures of quality programs to supplement the quantitative standards of cost and productivity currently in use. Placement of students in program related occupations and success of students who transfer should be the priority measures of accountability.

	Major Issue	College	Total
V.	Related Issues: (Cont'd)		
	3. Need funding for curriculum development and alternative instructional delivery systems such as television.		
	4. Need to maintain up-to-date equipment.		
VI.	CHANGING ENROLLMENT PATTERNS	CVCC; ESCC; JTCC; NRCC; NVCC; RCC; SSVCC; SWVCC; TNCC; TCC; WCC	11
	Related Issues:		
	1. Decline in number of traditional students; increase in part-time, non-degree, evening and adult students.		
	2. Need for a well planned student recruitment and retention program.		
	3. Need for greater emphasis on career education through AAS and Certificate programs.		
	4. Need to review and monitor the effect of increasing tuition and the changes in financial aid programs.		
	5. Need to integrate student services and instructional services at the college and System level.		
	6. Need to increase accessibility of colleges to non-traditional students - lower income, men and women seeking occupational/technical retraining, senior citizens; handicapped.		
	7. Need to review effect of open-door admissions policy.		
VII.	COMPETITIVE SALARIES AND BENEFITS FOR ALL PERSONNEL	BRCC; CVCC; DCC; JSRCC; MECC; NVCC; PVCC; RCC; VHCC; VWCC	10

Major Issue	College	Total
VIII. USE OF ON- AND OFF-CAMPUS FACILITIES	CVCC; GCC; NVCC; PVCC; MECC; PDCCC; SWVCC; VHCC	8

Related Issues:

1. Need for permanent space to support educational programs.
2. Need to locate satellite campuses in population centers.
3. Need to provide equitable services and funding for off-campus programs.
4. Need to monitor fuel costs for commuting students, organize commuter buses and carpools, and possibly take classes off-campus to students.

IX. ARTICULATION WITH SECONDARY SCHOOLS AND FOUR-YEAR COLLEGES	BRCC; DSLCC; JTCC; SSVCC; TCC; VWCC	6

Related Issues:

1. Need for a statewide articulation agreement with four-year colleges.
2. Duplication among secondary schools and community colleges in service to adult, continuing education students; need for more program/curriculum articulation.

X. PUBLIC IMAGE OF COMMUNITY COLLEGES	BRCC; CVCC; DCC; PHCC; SWVCC	5

Related Issues:

1. Need a legislative action plan and a public relations plan for the twenty-three colleges.
2. Need to gain public understanding and confidence in community colleges.

XI. INSTITUTIONAL SUPPORT SERVICES	JTCC; PDCCC; PVCC	3

Related Issues:

1. Need for increased administrative and academic computing capability.

VCCS SUMMARY - CATEGORIES I - IX
MAJOR ISSUES OF THE 1980s

Major Issue

I. ACCESSIBILITY

Related Issues:		College	Total
1.	Rising Costs of Education		
a.	Maintenance of low tuition and 80:20 funding ratio; in-state tuition to out-of-state students paying Virginia income taxes.	BRCC, CVCC, ESCC, JSRCC, NRCC, NVCC, PHCC, PVCC, SSVCC, TCC, VHCC, WCC	12
b.	Effect of reduction in financial aid programs.	BRCC, CVCC, ESCC, GCC, MECC, PHCC, PDCCC, PVCC, RCC, TCC, VWCC	11
c.	Effect of increased energy costs on commuting - need for bus lines, particularly in rural areas, need to develop car pools; need to provide low cost housing near the college.	BRCC, LFCC, MECC, PHCC, PDCCC, PVCC, RCC, SSVCC, SWVCC, VHCC	10
2.	Instructional Delivery		
a.	Support for off-campus instruction, including outreach centers and satellite campuses, and innovative instructional delivery methods such as television.	BRCC, CVCC, DSLCC, DCC, GCC, JSRCC, JTCC, LFCC, MECC, NRCC, PDCCC, PVCC, RCC, SSVCC, SWVCC, TCC, VHCC, VWCC	18
b.	Innovative scheduling for traditional and non-traditional students - weekdays, weekends, early quarter, longer class periods.	BRCC, ESCC, JSRCC, MECC, NVCC, SWVCC, VWCC	7
c.	Expansion of cooperative education, developmental studies, and use of learning resources facilities.	JTCC, VHCC	2
3.	Need to reaffirm and gain legislative acceptance of the original mission, including the concepts of accessibility to all citizens of the Commonwealth and the open door policy.	DCC, JSRCC, GCC, LFCC, NRCC, NVCC, RCC, TNCC, TCC, WCC	10

Related Issues:

4.	Accommodation of non-traditional and handicapped students-recruitment of students who never considered college; free tuition for the aged; costs of providing access to handicapped students.	CVCC, DSLCC, PVCC, RCC, WCC	5
5.	Need to determine types of services, their location and appropriate delivery methods required by employers and at industrial training sites.	BRCC, MECC, WCC	3
6.	Permanent space deficiency (affects current programs and new curricula).	LFCC, NVCC, TCC	3
7.	Need for more program flexibility and timely responses to community requests for courses.	DCC, PVCC	2
8.	Need for day care facilities.	SWVCC, VHCC	2
9.	Commitment to regional programs.	VWCC, WCC	2

II. QUALITY EDUCATION

Related Issues:

1.	Curriculum - Need for resources for innovative, up-to-date curriculum and instructional methods, materials and equipment, including computer-assisted instruction. Need for funding and faculty release time for curriculum development; need to coordinate program/course distribution by campus.	BRCC, DSLCC, ESCC, GCC, JSRCC, JTCC, NRCC, NVCC, PDCCC, PHCC, SWVCC, TNCC, TCC, VHCC, VWCC, WCC	16
2.	Program Evaluation - Need for comprehensive evaluation of VCCS programs which emphasizes measures of quality, need, and effectiveness, in addition to quantitative measures such as productivity.	BRCC, JSRCC, LFCC, NRCC, NVCC, PVCC, SSVCC, TCC, VHCC, WCC	10

3.	Professional Development - Need for Systemwide emphasis on professional development, in-service education and skill updating for full-time and part-time staff.	CVCC, DSLCC, DCC, LFCC, MECC, NRCC, NVCC, RCC, WCC	9
4.	Degree Program Approval - Need for a shorter time frame in which to get associate degree programs approved, thus enabling colleges to be more flexible in meeting community needs, particularly in vocational/technical programs.	DCC, JSRCC, JTCC, NVCC, PHCC, PVCC, RCC, SSVCC	8
5.	Developmental Education - Program Placement - Need for diagnostic testing of entering students and to emphasize and evaluate developmental education.	DCC, ESCC, GCC, JSRCC, PHCC, PDCCC, SSVCC, TCC	8
6.	Faculty Ratios - Need to maintain appropriate full-time/part-time faculty ratios.	CVCC, DSLCC, ESCC, GCC, PHCC, TCC	6
7.	Faculty Productivity - Need to review and maintain reasonable faculty workloads.	DSLCC, LFCC, NRCC, PVCC, TCC, VWCC	6
8.	Quality Faculty and Staff - Need to provide salaries, benefits, and professional acknowledgement to attract and retain high quality administrators, faculty, and staff; review credentials required to teach occupational/technical courses; evaluate faculty effectiveness.	DCC, GCC, RCC, VWCC, WCC	5
9.	Student Placement/Performance - Need to review the job placement function and monitor the job performance of students; need to assess academic progress of students.	GCC, MECC, PHCC, SWVCC, WCC	5

Major Issue

III. UNIQUENESS OF MISSION

Related Issues:

1. Relationship with other Educational Sectors -	BRCC, DSLCC, DCC, ESCC, JTCC, NVCC, PHCC, PDCCC, RCC, SSVCC, TNCC, TCC, VWCC, WCC	14
a. Duplication among vocational programs offered by community colleges and secondary schools.		
b. Duplication among secondary schools and community colleges offering adult continuing education.		
c. Articulation - Variations among transfer requirements and calendars of four-year institutions; need to enhance cooperation with four-year colleges.		
2. Mission		
a. Need to review the comprehensive mission and reaffirm or modify to meet changing community needs.	BRCC, CVCC, ESCC, JSRCC, PHCC, RCC, SSVCC, VHCC, VWCC, WCC	10
b. Need better public understanding of mission.	BRCC, DSLCC, DCC, JSRCC, PHCC, TCC	6
3. Relationships with the community - business, industry and other agencies		
a. Need to ensure that mission meets service area needs of students and employers.	BRCC, DCC, ESCC, GCC, JSRCC, MECC, SWVCC	7
4. Mission Emphasis		
a. Strengthen commitment to developmental education.	BRCC, DSLCC, GCC, MECC VWCC	5
b. Commitment to occupational-technical programs which meet the training and retraining needs of students for employment in business, industry, government, and service occupations; increased tendency to view colleges as technical schools; high cost of vocational training.	JTCC, TNCC, PVCC	3
c. Need to preserve open door admissions but maintain quality.	NVCC, SWVCC, TCC	3

d.	Geographic accessibility - need to consider an increase in off-campus locations or gain acceptance of the service region as the college campus.	JTCC, PVCC, RCC	3
e.	Recognize the uniqueness of each region and the appropriateness of programs - assume regional leadership roles in training, retraining, and continuing education in areas such as mining, tourism, water.	ESCC, MECC	2
f.	Low Cost	LFCC, TNCC	2
g.	Emphasize short-term curricula and cost effectiveness; fund non-degree activities.	VHCC, PVCC	2
h.	Enhance continuing education and community service.	JTCC	1
i.	Personal enrichment in the form of cultural activities.	MECC	1
j.	Maintain mix of programs.	NVCC	1
k.	Meet needs of educationally and economically disadvantaged adults.	PDCCC	1
l.	Primary responsibility - two-year degree programs.	MECC	1
m.	Maintain programs in college transfer, continuing education, and community service.	VHCC	1
n.	Meet community avocational and recreational needs.	GCC	1
o.	Stress development of regional instructional programs.	VWCC	1
p.	Provide training for expanding industry.	WCC	1
q.	Maintain small class sizes.	GCC	1
r.	Need to make rapid curricular responses to changing needs.	PVCC	1
s.	Additional Comments: Need for citizen participation in refinement of mission and a mechanism for the periodic review of the mission.	SWVCC	1

Major Issue

IV. ACCOUNTABILITY

Related Issues:

1.	Need accountability measures for non-degree programs.	DSLCC, ESCC, GCC, JTCC, PDCC, PVCC, RCC, SSVCC, SWVCC, TCC, VWCC, WCC	12

2.	*External Mandates and Control* a. Multiple layers of audits unnecessary. b. Need to be aware of public demand for accountability. c. Program Evaluation - Inappropriate criteria for program evaluation with overemphasis on quantitative rather than qualitative standards. d. Costs of accountability - over-regulation diverts scarce staffing resources; lack of state support to implement state and federal mandates.	DSLCC, DCC, GCC, JSRCC, JTCC, MECC, NRCC, NVCC, PVCC, SSVCC, WCC	11
3.	Centralization/Decentralization - Need for control of decision making, particularly budgeting and expenditures, at the institutional level; need for clear definition of the decentralized management philosophy; need to reduce duplication among state agencies.	BRCC, DCC, ESCC, JSRCC, LFCC, TNCC	6
4.	Compatibility of College Goals with Community Needs - Need for clear statement of goals and an examination of instructional programs to ensure that they meet community needs; need to demonstrate impact of college on service area and enhance public support; need guidelines for instructional planning and specific course objectives; need to recognize uniqueness of individual institutions.	CVCC, GCC, JTCC, RCC, SWVCC, WCC	6
5.	Evaluation Studies - Need for retention, graduate, and leaver follow-up studies; review faculty and administrative workloads, and cost of instruction in terms of effectiveness and efficiency.	JSRCC, JTCC, MECC, PHCC, SWVCC, VWCC	6
6.	Need to develop adequate information systems and computer support for all colleges to accommodate the increase in number of data requirements.	LFCC, NVCC, PDCCC, PVCC, TCC	5
7.	Articulation agreements between community colleges, secondary schools and four-year colleges which eliminate duplication of offerings.	CVCC, JTCC	2

8.	Need for a systemwide coordinated budget review process; funds should be expended according to a spending plan.	CVCC, LFCC	2

V. STUDENT DEMOGRAPHICS

Related Issues:

1.	How to best adapt to the increased number of part-time students - funding, staffing, scheduling, student services.	BRCC, DCC, GCC, JSRCC, LFCC, MECC, PDCCC, RCC, SSVCC, TCC, WCC	11
2.	Accommodation of disadvantaged, minority, and handicapped students.	BRCC, ESCC, MECC, PVCC, RCC, SWVCC, WCC	7
3.	Support for senior citizen programs.	DSLCC, DCC, JSRCC, JTCC, PVCC, SWVCC	6
4.	How to serve the special needs of older adults.	PHCC, PVCC, SSVCC, SWVCC, TCC, WCC	6
5.	Provision of special services to non-traditional students.	DSLCC, GCC, TCC, VHCC	4
6.	Need to give close attention to the changing student population in the service region of each college.	CVCC, DCC, LFCC, NVCC	4
7.	Need to provide support services for single parents and women.	JSRCC, PDCCC, RCC, SWVCC	4
8.	How to diminish the effects upon enrollment of the decline in the number of high school graduates.	BRCC, DCC, ESCC, NVCC	4
9.	Data Needs - inadequate data on student and area demographics; need a file of service area businesses and industries in order to obtain information about the occupations of residents and students; interpretation of demographic data by external agencies, particularly in the enrollment projection process.	GCC, LFCC, PVCC	3
10.	Program Emphasis - Need to increase programs in cooperative education, work-study programs, career education, apprenticeship programs, and developmental programs.	JTCC, TCC	2
11.	The effect of the rise in the median age of students upon programs, particularly continuing education.	LFCC, NVCC	2

12.	Student mix - Effect of increasing number of non-curricular students.	NVCC	1
13.	Colleges need to consider serving the following groups:		
a.	Illiterate adults	ESCC	1
b.	Programs for the unemployed and underemployed.	JTCC	1
c.	Programs for the economically disadvantaged, not adequately served by other agencies.	PDCCC	1
d.	Increased number of minorities	JTCC	1
e.	Students who want to change careers and need retraining.	MECC, PVCC	2
f.	Gifted students	MECC	1
g.	High School dropouts	SWVCC	1
h.	Are traditional students getting attention?	TNCC	1
i.	Commitment to lifelong learning	VWCC	1
14.	Priority of education of older adults compared to occupational-technical training for youth.	WCC	1
15.	Role of recruitment	TNCC	1

VI. FINANCIAL RESOURCES

Related Issues:

1.	Need additional resources for:		
a.	Building and equipment maintenance	CVCC, DSLCC, GCC, JTCC, MECC, PHCC, PVCC, RCC, SWVCC, TNCC, TCC, VHCC, VWCC, WCC	14
b.	Capital Outlay - increase permanent instructional space.	MECC, NVCC, PDCCC, PVCC, RCC, TNCC, TCC, VWCC, WCC	9
c.	Adequate faculty salaries - meet benchmark.	DCC, ESCC, JSRCC, JTCC, MECC, NVCC, TCC	7
d.	Replacement of obsolete instructional equipment.	BRCC, DSLCC, DCC, ESCC, MECC, PDCCC, SWVCC	7
e.	Staff development	CVCC, DCC, MECC, RCC	4
f.	Minimum staffing and base funding for small colleges.	GCC, PHCC, RCC, SSVCC	4
g.	100% funding of Appendix M guidelines.	CVCC, JSRCC, NRCC, NVCC	4
h.	Support services	DSLCC, WCC	2
i.	Mandated programs such as removal of access barriers for the handicapped.	NRCC	1

	j. Faculty to do curriculum development and evaluation/improvement.	VHCC	1
	k. Innovative instructional methods.	CVCC	1
	l. Increased costs of multi-campus institutions.	JSRCC	1
2.	To what extent should community colleges seek federal assistance for sponsored programs?	CVCC, LFCC, NRCC, PDCCC, PVCC, SWVCC, VWCC, WCC	8
3.	Funding Formulas a. Need a funding floor for fixed expenses associated with property, plant, equipment, maintenance, insurance, and security. b. Full funding of programs based on headcount. c. Equity for all community colleges. d. Funding ratios should reflect the uniqueness of colleges (full-time/part-time; day/evening). e. Base funding on specific program costs rather than by discipline.	DCC, JSRCC, LFCC, PHCC, PDCCC, RCC, TNCC	7
4.	To what extent should community colleges seek private funding?	BRCC, JTCC, VHCC, WCC	4
5.	What effect will shifting tax bases, inflation, rising energy costs and other economic factors have on financial resources?	ESCC, GCC, PVCC, SWVCC	4
6.	Can "no-frills" attitude ensure accessibility to post-secondary education? Willingness of state to allocate resources for quality instruction.	DCC, ESCC, TNCC	3
7.	Maintain 80:20 funding ratio and low tuition.	BRCC, TCC	2
8.	Inflexibility imposed by restrictions on the movement of funds.	PVCC, TNCC	2
9.	Competition from private schools if tuition vouchers are used as a form of financial aid.	BRCC	1

VII.-A TEACHING FACULTY

Related Issues:

1.	Commitment to and provision of opportunities for faculty development and retraining.	BRCC, CVCC, DSLCC, ESCC, GCC, JTCC, LFCC, MECC, NRCC, NVCC, PHCC, PDCCC, PVCC, SSVCC, SWVCC, TNCC, TCC, VHCC, VWCC, WCC	20
2.	Salaries and benefits need to be more competitive and brought to national standards.	BRCC, CVCC, DCC, GCC, JSRCC, LFCC, MECC, NRCC, NVCC, PHCC, PDCCC, PVCC, RCC, SWVCC, TNCC, TCC, VHCC, VWCC, WCC	19
3.	Appropriate full-time/part-time faculty ratios.	BRCC, CVCC, DCC, ESCC, GCC, JTCC, LFCC, NRCC, NVCC, PHCC, PVCC, RCC, SWVCC, TNCC, TCC, VWCC, WCC	17
4.	Need to review faculty workload.	BRCC, GCC, PDCCC, PVCC, RCC, SSVCC, TNCC, VHCC, VWCC	9
5.	Consistent evaluation system for measuring faculty performance; review merit pay, multi-year appointments and promotions.	DSLCC, DCC, JSRCC, MECC, NRCC, TNCC, TCC, VHCC, VWCC	9
6.	Need reduced student/faculty ratios.	JSRCC, NVCC, SWVCC, TCC	4
7.	Faculty recruitment - difficulty attracting faculty in certain instructional areas, particularly in rural colleges.	GCC, LFCC, SSVCC	3
8.	Role of teaching faculty in governance and policy making.	TNCC, WCC	2
9.	Increase number of positions.	NVCC	1

10.	Need training orientation and development of part-time faculty.	DCC	1
11.	Need ways to deal with the effects of low faculty turnover on advancement.	DSLCC	1
12.	Ratios of FTE faculty from past.	DSLCC	1
13.	Specialists needed to teach handicapped.	ESCC	1
14.	Need to review teaching requirements for occupational-technical faculty.	JSRCC	1
15.	Need to increase the number of minority faculty.	JTCC	1
16.	Need to determine optimal staffing ratios to ensure quality instruction.	NRCC	1
17.	Adequate grievance procedures.	TNCC	1

VII.-B ADMINISTRATIVE FACULTY

Related Issues

1.	Opportunities for professional development	BRCC, DCC, ESCC, GCC, JTCC, NRCC, NVCC, PDCCC, PVCC, RCC, SSVCC, VWCC, WCC	13
	a. Opportunities for sabbaticals.	LFCC, PVCC, TNCC	3
2.	Competitive salaries and benefits (particularly leave policy).	BRCC, DCC, GCC, LFCC, NVCC, PDCCC, PVCC, RCC VHCC, VWCC	10
3.	Increase in number of positions, particularly in areas such as counseling and learning resources; support personnel for administrative faculty.	GCC, NVCC, PDCCC, RCC, SSVCC, TCC	6
4.	Abolish 135% guideline.	DCC, TNCC, VWCC	3

5.	Clarification of the status of non-teaching faculty.	PVCC, TNCC, VHCC	3
6.	Determine optimum staffing requirements.	NRCC, PVCC	2
7.	Need for periodic review of job descriptions and position responsibilities.	BRCC, MECC	2
8.	Changing role for continuing education officer - attention to industrial training.	BRCC	1
9.	Review staffing patterns.	ESCC	1
10.	Need for clearly defined responsibilities.	GCC	1
11.	Effectiveness of department chairmen in light of administrative workload.	DCC	1
12.	Better communication and professional respect between VCCS and colleges.	DCC	1
13.	Adequate staffing for evening classes.	JSRCC	1
14.	Consulting time regulations.	PVCC	1
15.	Continuing contracts for administrators.	TNCC	1
16.	Commitment to hiring and advancement of minorities and women; need to be able to move from administrative to faculty status without seniority penalty; need a policy that supports in-house promotions; develop administrative internship programs.	JSRCC	1
17.	Need periodic teaching assignments for administrative faculty; emphasize administrative skills over previous teaching; burnout and work overload; System inbreeding.	WCC	1

VII.-C CLASSIFIED STAFF

Related Issues

1.	**Competitive salaries** and **fringe** benefits **to** prevent loss to private sector.	BRCC, GCC, NVCC, PDCCC, PVCC, RCC, TNCC, TCC, VHCC, WCC	10
2.	**Need review** and update of personnel policies including job classifications; career tracks; **adva**ncement opportunities; professional **development**; state **support** for educational aid, including tuition payments **for** degree-related classes; regulations for establishing **new** positions; merit system.	BRCC, DCC, ESCC, JSRCC LFCC, MECC, PHCC, SSVCC, TNCC, TCC	10
3.	**Need** to evaluate number of allocated positions, including number for administration of evening classes.	GCC, JSRCC, LFCC, NRCC, NVCC, PVCC, RCC, TCC	8
4.	Funding for staff development.	GCC, RCC, TNCC, VWCC, WCC	5
5.	Opportunities for upgrading skills in areas such as word processing.	ESCC, JTCC, PDCCC	3
6.	Efficiency study of utilization of classified positions; evaluation of workloads; salaries commensurate with job descriptions; ability to fill all classified positions.	DCC, VWCC, WCC	3
7.	Review advantages and disadvantages **of non-traditional** workweek (flex time).	BRCC, PVCC	2
8.	**Accommod**ation of handicapped employees.	BRCC	1
9.	**Deve**lop systemwide testing program in accordance with EEOC.	LFCC	1
10.	**CETA phase out** - who will pick up positions?	RCC	1
11.	**Special** incentives for hard to fill positions.	WCC	1
12.	Support **personnel for shops** which would **maintain** instructional equipment.	VHCC	1

VIII. INSTITUTIONAL SUPPORT

Related Issues

1.	Need Data Services Master Plan with adequate computing resources at each college and campus; less stringent central control of data processing.	BRCC, DCC, ESCC, GCC, JSRCC, JTCC, MECC, NVCC, PHCC, PDCCC, PVCC, RCC, SWVCC, TNCC, TCC, VHCC	16
2.	Improve public relations program and image; need a legislative plan for all twenty-three colleges.	CVCC, DCC, GCC, JSRCC, JTCC, MECC, PHCC, PDCCC, RCC, SSVCC, SWVCC, TNCC, WCC	13
3.	Need for a commitment to and more resources for research and planning	BRCC, CVCC, DSLCC, GCC, JTCC, PHCC, TCC, VHCC, WCC	9
4.	Lack of staff, funds to meet SACCS standards, and a data base for Learning Resource Centers.	DCC, GCC, JSRCC, NVCC, PVCC, SWVCC, VHCC	7
5.	Acknowledgment of the role of public information; need a change in policy which would allow colleges to advertise.	JSRCC, PVCC, RCC, SSVCC, TNCC, TCC, VHCC	7
6.	Need curricular master plans and campus site plans for the System and individual colleges.	BRCC, ESCC, MECC, NVCC	4
7.	Need more flexibility at the local level in order to make maximum use of financial resources.	CVCC, DCC, LFCC, PHCC	4
8.	Commitment to community colleges by General Assembly; need for the VCCS to be more involved in state level planning; increasing role of the legislature in management at the decision rather than policy level; control by outside agencies.	BRCC, CVCC, PVCC, WCC	4
9.	Priority of institutional support; can we do more for less? Need for off-campus support services.	NRCC, PDCCC, TNCC	3
10.	State purchasing system poor.	DCC, TNCC	2

11.	Reduce bureaucratic red tape.	BRCC, RCC	2
12.	Need for systemwide strategic planning.	CVCC	1
13.	More concern for instructional creativity.	CVCC	1
14.	Need for instructional support materials.	ESCC	1
15.	Streamline planning process and organizational procedures.	ESCC	1
16.	Grant writing expertise.	GCC	1
17.	More lead time for colleges from the System Offices.	JSRCC	1
18.	Establish criteria to evaluate institutional performance with respect to criteria in mission, goals, and objectives.	JTCC	1
19.	Select members of the management team who have high professional competencies and whose goals are consistent with the college.	JTCC	1
20.	Management development release time.	PVCC	1

IX. OTHER (Note: This summary contains only those issues which were not listed by any college in Categories I-IX.)

	Issue	
1.	Need for a statewide program to ascertain public perception of VCCS's programs and to assess strengths and weaknesses.	NRCC
2.	Need for a statewide program to improve legislative awareness and encourage involvement in the future direction of the VCCS.	NRCC
3.	Explore interinstitutional agreements with other educational institutions to reduce competition and improve services to students through cooperative arrangements.	PDCCC

4.	Research and planning should include all aspects of the community.	CVCC
5.	Need for a systemwide structure through which colleges could offer credit for experiential learning.	SWVCC
6.	Waive tuition for faculty and staff at VCCS institutions.	VHCC
7.	Uniform VCCS policy for student rights.	VHCC

Appendix B

CHANGES IN VIRGINIA COMMUNITY COLLEGE'S SERVICE REGION POPULATIONS

1970 - 1980

CHANGES IN VIRGINIA COMMUNITY COLLEGE'S SERVICE REGION POPULATIONS
1970 - 1980

	POPULATION 1970	POPULATION 1980	NUMERICAL CHANGE	PERCENT CHANGE
BLUE RIDGE				
Augusta	44,220	53,732	+9,512	+21.5
Rockingham	47,890	57,038	+9,148	+19.1
Highland	2,529	2,937	+408	+16.1
o Waynesboro	16,707	15,329	-1,378	-8.2
o Staunton	24,504	21,857	-2,647	-10.8
o Harrisonburg	14,605	19,671	+5,066	+34.7
Total	150,455	170,564	+20,109	+13.4
CENTRAL VIRGINIA				
Amherst	26,072	29,122	+3,050	+11.7
Appomattox	9,784	11,971	+2,187	+22.4
Bedford	26,728	34,927	+8,199	+30.7
Campbell	43,319	45,424	+2,105	+4.9
o Bedford	6,011	5,991	-20	-0.3
o Lynchburg	54,083	66,743	+12,660	+23.4
Total	165,997	194,178	+28,181	+17.0
DABNEY LANCASTER				
Alleghany	12,461	14,333	+1,872	+15.0
Bath	5,192	5,860	+668	+12.9
Botetourt*	9,096	11,635	+2,539	+27.9
Rockbridge	16,637	17,911	+1,274	+7.1
o Buena Vista	6,425	6,717	+292	+4.5
o Clifton Forge	5,501	5,046	-455	-8.3
o Covington	10,060	9,063	-997	-9.9
o Lexington	7,597	7,292	-305	-4.0
Total	72,969	77,857	+4,888	+6.7
DANVILLE				
Halifax*	15,038	15,209	+171	+1.1
Pittsylvania	58,789	66,147	+7,358	+12.5
o Danville	46,391	45,642	-749	-1.6
o South Boston*	3,445	3,547	+102	+3.0
Total	123,663	130,545	+6,882	+5.6
EASTERN SHORE				
Accomack	29,004	31,268	+2,264	+7.8
Northampton	14,442	14,625	+183	+1.3
Total	43,446	45,893	+2,447	+5.6

CHANGES IN VIRGINIA COMMUNITY COLLEGE'S SERVICE REGION POPULATIONS
1970 - 1980

	POPULATION 1970	POPULATION 1980	NUMERICAL CHANGE	PERCENT CHANGE
GERMANNA				
Caroline*	6,963	8,952	+1,989	+28.6
Culpeper	18,218	22,620	+4,402	+24.2
Fauquier*	13,188	17,945	+4,757	+36.1
King George*	4,020	5,272	+1,252	+31.1
Madison	8,638	10,232	+1,594	+18.5
Orange	13,792	17,827	+4,035	+29.3
Spotsylvania	16,424	34,435	+18,011	+109.7
Stafford	24,587	40,470	+15,883	+64.6
o Fredricksburg	14,450	15,322	+872	+6.0
Total	120,280	173,075	+52,795	+43.9
J. SARGEANT REYNOLDS				
Goochland	10,069	11,761	+1,692	+16.8
Hanover	37,479	50,398	+12,919	+34.5
Henrico	154,463	180,735	+26,272	+17.0
Louisa*	7,002	8,913	+1,911	+27.3
Powhatan	7,696	13,062	+5,366	+69.7
o Richmond*	124,666	109,607	-15,059	-12.1
Total	341,375	374,476	+33,101	+9.7
JOHN TYLER				
Amelia	7,592	8,405	+813	+10.7
Charles City	6,158	6,692	+534	+8.7
Chesterfield	77,045	141,372	64,327	+83.5
Dinwiddie	25,046	22,602	-2,444	-9.8
Prince George	29,092	25,733	-3,359	-11.5
Surry	5,882	6,046	+164	+2.8
Sussex	11,464	10,874	-590	-5.1
o Colonial Heights	15,097	16,509	+1,412	+9.4
o Hopewell	23,471	23,397	-74	-0.3
o Petersburg	36,103	41,055	+4,952	+13.7
o Richmond*	124,666	109,607	-15,059	-12.1
Total	361,616	412,292	+50,676	+14.0
LORD FAIRFAX				
Clarke	8,102	9.965	+1,863	+23.0
Fauquier*	13,188	17,945	+4,757	+36.1
Frederick	28,893	34,150	+5,257	+18.2
Page	16,581	19,401	+2,820	+17.0
Rappahannock	5,199	6,093	+894	+17.2
Shenandoah	22,852	27,559	+4,707	+20.6
Warren	15,301	21,200	+5,899	+38.6
o Winchester	14,643	20,217	+5,574	+38.1
Total	124,759	156,530	+31,771	+25.5

CHANGES IN VIRGINIA COMMUNITY COLLEGE'S SERVICE REGION POPULATIONS
1970 - 1980

	POPULATION 1970	POPULATION 1980	NUMERICAL CHANGE	PERCENT CHANGE
MOUNTAIN EMPIRE				
Dickenson*	8,039	9,903	+1,864	+23.2
Lee	20,321	25,956	+5,635	+27.7
Scott	24,376	25,068	+692	+2.8
Wise	35,947	43,863	+7,916	+22.0
o Norton	4,172	4,757	+585	+14.0
Total	92,855	109,547	16,692	+18.0
NEW RIVER				
Floyd	9,775	11,563	+1,788	+18.3
Giles	16,741	17,810	+1,069	+6.4
Montgomery	47,157	63,516	+16,359	+34.7
Pulaski	29,564	35,229	+5,665	+19.2
o Radford	11,596	13,225	+1,629	+14.0
Total	114,833	141,343	+26,510	+23.1
NORTHERN **VIRGINIA**				
Arlington	174,284	152,599	-21,685	-12.4
Fairfax	454,275	596,901	+142,626	+31.4
Loudoun	37,150	57,427	+20,277	+54.6
Prince William	111,102	144,703	+33,601	+30.2
o Alexandria	110,927	103,217	-7,710	-7.0
o Fairfax	22,727	19,390	-3,337	-14.7
o Falls Church	10,772	9,515	-1,257	-11.7
o Manassas	9,164	15,438	+6,274	+68.5
o Manassas Park	6,844	6,524	-320	-4.7
Total	937,245	1,105,714	+168,469	+18.0
PATRICK HENRY				
Franklin*	14,082	17,870	+3,788	+26.9
Henry	50,901	57,654	+6,753	+13.3
Patrick	15,282	17,585	+2,303	+15.1
o Martinsville	19,653	18,149	-1,504	-7.7
Total	99,917	111,258	+11,341	+11.4
PAUL D. CAMP				
Isle of Wight*	9,143	10,802	+1,659	+18.1
Southampton	18,582	18,731	+149	+0.8
o Franklin	6.880	7,308	+428	+6.2
o Suffolk*x	22,512	23,811	+1,299	+5.8
Total	57,117	60,652	+3.535	+6.2

CHANGES IN VIRGINIA COMMUNITY COLLEGE'S SERVICE REGION POPULATIONS
1970 - 1980

	POPULATION 1970	POPULATION 1980	NUMERICAL CHANGE	PERCENT CHANGE
PIEDMONT VIRGINIA				
Albemarle	37,780	50,689	+13,089	+34.2
Buckingham*	5,299	5,876	+577	+10.9
Fluvanna	7,621	10,244	+5,623	+34.4
Greene	5,248	7,625	+2,377	+45.3
Louisa*	7,002	8,913	+1,911	+27.3
Nelson	11,702	12,204	+502	+4.3
o Charlottesville	38,880	45,010	+6,130	+15.8
Total	113,532	140,561	+27,029	+23.8
RAPPAHANNOCK				
Caroline*	6,963	8,952	+1,989	+28.6
Essex	7,099	8,864	+1,765	+24.9
Gloucester	14,059	20,107	+6,048	+43.0
King & Queen	5,491	5,968	+477	+8.7
King George*	4,020	5,272	+1,252	+31.1
King William	7,497	9,327	+1,830	+24.4
Lancaster	9,126	10,129	+1,003	+11.0
Mathews	7,168	7,995	+827	+11.5
Middlesex	6,295	7,719	+1,424	+22.6
New Kent	5,300	8,781	+3,481	+65.7
Northumberland	9,239	9,828	+589	+6.4
Richmond	6,504	6,952	+448	+6.9
Westmoreland	12,142	14,041	+1,899	+15.6
Total	100,903	123,935	+23,032	+22.8
SOUTHSIDE VIRGINIA				
Brunswick	16,172	15,632	-540	-3.3
Buckingham*	5,299	5,876	+577	+10.9
Charlotte	12,366	12,266	-100	-0.8
Cumberland	6,179	7,881	+1,702	+27.5
Greensville	9,604	10,903	+1,299	+13.5
Halifax*	15,038	15,209	+171	+1.1
Lunenburg	11,687	12,124	+437	+3.7
Mecklenberg	29,426	29,444	+18	+0.1
Nottoway	14,260	14,666	+406	+2.8
Prince Edward	14,379	16,456	+2,077	+14.4
o Emporia	5,300	4,840	-460	-8.7
o South Boston*	3,445	3,547	+102	+3.0
Total	143,155	148,844	+5,689	+4.0
SOUTHWEST VIRGINIA				
Buchanan	32,071	37,989	+5,918	+185
Dickenson*	8,039	9,903	+1,864	+23.2
Russell	24,533	31,761	+7,228	+29.5
Tazewell	39,816	50,511	+10,695	+26.9
Total	104,459	130,164	+25,705	+24.6

CHANGES IN VIRGINIA COMMUNITY COLLEGE'S SERVICE REGION POPULATIONS
1970 - 1980

	POPULATION 1970	POPULATION 1980	NUMERICAL CHANGE	PERCENT CHANGE
THOMAS NELSON				
James City	17,853	22,763	+4,910	+27.5
York	33,203	35,463	+2,260	+6.8
o Hampton	120,779	122,617	+1,838	+1.5
o Newport News	138,177	144,903	+6,726	+4.9
o Poquoson	5,441	8,726	+3,285	+60.4
o Williamsburg	9,069	9,870	+801	+8.8
Total	324,522	344,342	+19,820	+6.1
TIDEWATER				
Isle of Wight*	9,143	10,802	+1,659	+18.1
o Chesapeake	89,580	114,226	+24,646	+27.5
o Norfolk	307,951	266,979	-40,972	-13.3
o Portsmouth	110,963	104,577	-6,386	-5.8
o Suffolk *x	22,512	23,811	+1,299	+5.8
o Virginia Beach	172,106	262,199	+90,093	+52.3
Total	712,255	782,594	+70,339	+9.8
VIRGINIA HIGHLANDS				
Smyth*	15,675	16,683	+1,008	+6.4
Washington	40,835	46,487	+5,652	+13.8
o Bristol	14,857	19,042	+4,185	+28.2
Total	71,367	82,212	+10,845	+15.2
VIRGINIA WESTERN				
Botetourt*	9,096	11,635	+2,539	+27.9
Craig	3,524	3,948	+424	+12.0
Franklin*	14,082	17,870	+3,788	+26.9
Roanoke	67,339	72,945	+5,606	+8.3
o Roanoke	92,115	100,427	+8,312	+9.0
o Salem	21,982	23,958	+1,976	+9.0
Total	208,138	230,783	+22,645	+11.2
WYTHEVILLE				
Bland	5,423	6,349	+926	+17.1
Carroll	23,092	27,270	+4,178	+18.1
Grayson	15,439	16,579	+1,140	+7.4
Smyth*	15,675	16,683	+1,008	+6.4
Wythe	22,139	25,522	+3,383	+15.3
o Galax	6,278	6,524	+246	+3.9
Total	88,046	98,927	+10,881	+12.4

* County or city included in two service regions. Note: For the purposes of this appendix population was evenly divided between those colleges sharing geographic county or city areas.

0 Indicates independent city.

x Suffolk City includes Nansemond County population for both 1970 and 1980.

SOURCE: U.S. Dept. of Commerce, Bureau of the Census, "Advance Report, Virginia," 1980 Census of Population and Housing, March 1981.

Appendix C

SUMMARY OF VCCS EXISTING AND PROPOSED PROGRAMS BY CLUSTER

AND

1981-82 VCCS CURRICULAR MATRIX OF EXISTING PROGRAMS AND PROPOSED PROGRAMS FOR 1982-90

SUMMARY OF VCCS EXISTING AND PROPOSED PROGRAMS BY CLUSTER

		Existing Programs*	Proposed Programs* 1982-89
CLUSTER: COLLEGE TRANSFER		148	5
Degree:	Associate in Arts (AA)	25	4
	Associate in Science (AS)	75	1
	Associate in Arts & Sciences (ASA)	48	0

ASSOCIATE IN APPLIED SCIENCE, DIPLOMA & CERTIFICATE LEVELS

		Existing Programs*		Proposed Programs* 1982-89	
		AAS	D/C	AAS	D/C
CLUSTER: AGRICULTURAL AND NATURAL RESOURCES TECHNOLOGY		14	7	8	3
Degree:	Agricultural Business	8	4	4	2
	Agricultural Sciences	1	1	1	1
	Animal Science	2	2	2	0
	Renewable Natural Resources	3	0	1	0
CLUSTER: ARTS & DESIGN TECHNOLOGY		9	3	4	2
Degree:	Environmental Design	2	0	0	0
	Graphic Communications	7	3	4	2
CLUSTER: BUSINESS TECHNOLOGY		104	117	30	19
Degree:	Business Management	57	49	10	3
	Business & Office	24	53	8	9
	Data Processing	11	7	10	4
	Marketing	8	6	1	3
	Transportation & Material Moving	4	2	1	0
CLUSTER: ENGINEERING/INDUSTRIAL TECHNOLOGY		79	181	40	45
Degree:	Architectural and Construction Technology	6	25	1	7
	Civil Technology	7	0	1	0
	Electrical/Electronics Tech.	21	37	7	2
	Environmental Control Tech.	5	18	12	4
	General Engineering Tech.	3	0	1	0
	Industrial Production and Technology	3	17	3	9
	Mechanical Technology	21	41	4	5
	Mining & Petroleum Tech.	2	3	1	3
	Nuclear Technology	0	0	2	0
	Science Technologies	0	0	1	1
	Quality Control and Safety Technology	2	2	0	4
	Vehicle and Mobile Equipment Technology	9	38	7	12

		Existing Programs*		Proposed Programs* 1982-89	
		AAS	D/C	AAS	D/C
CLUSTER:	HEALTH TECHNOLOGY	49	20	25	12
Degree:	Dental Hygiene	2	4	0	0
	Dental Laboratory	2	0	1	0
	Dietetics	1	2	1	0
	Emergency Medical Services	1	1	2	2
	Funeral Services	1	0	0	0
	Medical Assisting	1	0	0	0
	Medical Laboratory	5	1	4	0
	Medical Records	3	0	0	1
	Mental Health	4	1	1	0
	Nursing	15	4	2	7
	Opticianry	2	0	1	0
	Physical Therapy	1	0	4	0
	Radiography	8	0	2	0
	Respiratory Therapy	3	7	4	2
	Occupational Therapy Assistant	0	0	1	0
	Nuclear Medicine	0	0	1	0
	Radiation Oncology	0	0	1	0
CLUSTER:	PUBLIC SERVICE TECHNOLOGY	48	80	15	16
Degree:	Communication Technology	1	2	1	2
	Community Services/Public Administration	5	2	1	1
	Educational Services	5	26	2	4
	Human Services	6	21	6	2
	Parks & Recreation	3	0	2	0
	Protective Services	28	29	3	7
TOTAL ALL CLUSTERS:	Transfer	148		5	
	O/T	303	408	122	97

*Number of Program Areas (degree majors and non-degree programs).

1981-82 VCCS Curricular Matrix of Existing Programs and Proposed Programs for 1982-90*

CLUSTER: College Transfer

DEGREE: Associate in Arts (AA)

DEGREE PROGRAM	CODE	PROGRAM AREA	VCCS CODE	BLUE RIDGE	CENTRAL VIRGINIA	DABNEY S. LANCASTER	DANVILLE	EASTERN SHORE	GERMANNA	J. SARGEANT REYNOLDS	JOHN TYLER	LORD FAIRFAX	MOUNTAIN EMPIRE	NEW RIVER	NORTHERN VIRGINIA	PATRICK HENRY	PAUL D. CAMP	PIEDMONT VIRGINIA	RAPPAHANNOCK	SOUTHSIDE VIRGINIA	SOUTHWEST VIRGINIA	THOMAS NELSON	TIDEWATER	VIRGINIA HIGHLANDS	VIRGINIA WESTERN	WYTHEVILLE
Liberal Arts	24.0101	Communication Arts	647																							B
		Liberal Arts	648		B	B	B	B		B	B			B	B	B		B			B	B	B	B	B	B
Visual & Performing Arts	50.0101	Fine Arts	529												B			B				B	B		B	
		Music	555												B						B		B		6	
		Theatre Arts	595												6								3		B	

CLUSTER: College Transfer

DEGREE: Associate in Science (AS)

DEGREE PROGRAM	CODE	PROGRAM AREA	VCCS CODE	BLUE RIDGE	CENTRAL VIRGINIA	DABNEY S. LANCASTER	DANVILLE	EASTERN SHORE	GERMANNA	J. SARGEANT REYNOLDS	JOHN TYLER	LORD FAIRFAX	MOUNTAIN EMPIRE	NEW RIVER	NORTHERN VIRGINIA	PATRICK HENRY	PAUL D. CAMP	PIEDMONT VIRGINIA	RAPPAHANNOCK	SOUTHSIDE VIRGINIA	SOUTHWEST VIRGINIA	THOMAS NELSON	TIDEWATER	VIRGINIA HIGHLANDS	VIRGINIA WESTERN	WYTHEVILLE
Business Administration	06.0401	Business Administration	213		B	B	B	B		B	B			B	B	B	B	B			B	B	B	B	B	B
Education	13.0101	Art Education	698												B										6	
		Education	625		B	B	B	B		B	B			B	B	B	B	B			B	B	B	B	B	B
Engineering	14.0101	Engineering	831		B		B			B					B						B	B	B		B	
General Studies	24.0199	General Studies	699		B	B		B			B			B	B	B	B	B			B	B	B	B	B	B
Natural Sciences	30.0101	Science	880		B	B	B	B		B	B			B	B	B	B	B			B	B	B	B	B	B

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1981-82 VCCS Curricular Matrix of Existing Programs and Proposed Programs for 1982-90*

CLUSTER: College Transfer

DEGREE PROGRAM	CODE	PROGRAM AREA	VCCS CODE	BLUE RIDGE	CENTRAL VIRGINIA	DABNEY S. LANCASTER	DANVILLE	EASTERN SHORE	GERMANNA	J. SARGEANT REYNOLDS	JOHN TYLER	LORD FAIRFAX	MOUNTAIN EMPIRE	NEW RIVER	NORTHERN VIRGINIA	PATRICK HENRY	PAUL D. CAMP	PIEDMONT VIRGINIA	RAPPAHANNOCK	SOUTHSIDE VIRGINIA	SOUTHWEST VIRGINIA	THOMAS NELSON	TIDEWATER	VIRGINIA HIGHLANDS	VIRGINIA WESTERN	WYTHEVILLE
Arts & Sciences	24.0198	Arts and Sciences	( )																							
		Business Administration	216	B		B	B	B	B			B	B				B		B	B						
		Education	624	B		B	B	B	B			B	B				B		B	B						
		Engineering	836				B																			
		General Studies	697	B		B		B	B			B	B				B			B						
		Liberal Arts	650	B		B	B	B	B			B	B				B		B	B						
		Science	881	B		B	B	B	B				B				B		B	B						

CLUSTER: Agricultural & Natural Resources Technology

DEGREE PROGRAM	CODE	PROGRAM AREA	VCCS CODE	BLUE RIDGE	CENTRAL VIRGINIA	DABNEY S. LANCASTER	DANVILLE	EASTERN SHORE	GERMANNA	J. SARGEANT REYNOLDS	JOHN TYLER	LORD FAIRFAX	MOUNTAIN EMPIRE	NEW RIVER	NORTHERN VIRGINIA	PATRICK HENRY	PAUL D. CAMP	PIEDMONT VIRGINIA	RAPPAHANNOCK	SOUTHSIDE VIRGINIA	SOUTHWEST VIRGINIA	THOMAS NELSON	TIDEWATER	VIRGINIA HIGHLANDS	VIRGINIA WESTERN	WYTHEVILLE
Agricultural Business	01.0101	Agricultural Business	302	A						A							A			6						A
		Horticulture	335						7	A		2		3	A								A		A	
		Agribusiness	301		C								X						X							
		Farm Operation & Management	303																							C
		Agricultural Mechanics	304							C																
		Landscaping & Turfgrass Management	308									C														
Agricultural Sciences	02.0101	Agronomy	305														A		6							
		Livestock	189																							
		Horse and Livestock Management	187									C														
		Agronomy	( )																X							
Animal Science	02.0201	Animal Laboratory Assisting	306	6																						
		Animal Science	188	A												A								6			
		Animal Husbandry	186									D														
		Small Animal Care	309							C																

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1981-82 VCCS Curricular Matrix of Existing Programs and Proposed Programs for 1982-90*

CLUSTER: Agricultural & Natural Resources Technology (continued)

DEGREE PROGRAM	CODE	PROGRAM AREA	VCCS CODE	BLUE RIDGE	CENTRAL VIRGINIA	DABNEY S. LANCASTER	DANVILLE	EASTERN SHORE	GERMANNA	J. SARGEANT REYNOLDS	JOHN TYLER	LORD FAIRFAX	MOUNTAIN EMPIRE	NEW RIVER	NORTHERN VIRGINIA	PATRICK HENRY	PAUL D. CAMP	PIEDMONT VIRGINIA	RAPPAHANNOCK	SOUTHSIDE VIRGINIA	SOUTHWEST VIRGINIA	THOMAS NELSON	TIDEWATER	VIRGINIA HIGHLANDS	VIRGINIA WESTERN	WYTHEVILLE
Renewable Natural Resources	03.0101	Forestry	328			A											6									
		Natural Resources Management & Security	450									A														
		Wildlife	307			A																				

CLUSTER: Arts & Design Technology

DEGREE PROGRAM	CODE	PROGRAM AREA	VCCS CODE	BLUE RIDGE	CENTRAL VIRGINIA	DABNEY S. LANCASTER	DANVILLE	EASTERN SHORE	GERMANNA	J. SARGEANT REYNOLDS	JOHN TYLER	LORD FAIRFAX	MOUNTAIN EMPIRE	NEW RIVER	NORTHERN VIRGINIA	PATRICK HENRY	PAUL D. CAMP	PIEDMONT VIRGINIA	RAPPAHANNOCK	SOUTHSIDE VIRGINIA	SOUTHWEST VIRGINIA	THOMAS NELSON	TIDEWATER	VIRGINIA HIGHLANDS	VIRGINIA WESTERN	WYTHEVILLE
Environmental Design	04.0501	Interior Design	520												A								A			
		Interior Decorating	521																							
Graphic Communications	48.0201	Commercial Art	513		A										A							A		A		
		Graphic Arts	516																				A			
		Media Advertising Arts	514																				A			
		Media Technology	510																							
		Printing	970	A	6							7			9											
		Photography	( )								6															
		Arts and Crafts	597															C								
		Graphic Arts	500																							
		Media Production	515																				C			
		Photography	501							X																
		Printing	964				D			X																

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1981-82 VCCS Curricular Matrix of Existing Programs and Proposed Programs for 1982-90*

CLUSTER: Business Technology

DEGREE PROGRAM	CODE	PROGRAM AREA	VCCS CODE	BLUE RIDGE	CENTRAL VIRGINIA	DABNEY S. LANCASTER	DANVILLE	EASTERN SHORE	GERMANNA	J. SARGEANT REYNOLDS	JOHN TYLER	LORD FAIRFAX	MOUNTAIN EMPIRE	NEW RIVER	NORTHERN VIRGINIA	PATRICK HENRY	PAUL D. CAMP	PIEDMONT VIRGINIA	RAPPAHANNOCK	SOUTHSIDE VIRGINIA	SOUTHWEST VIRGINIA	THOMAS NELSON	TIDEWATER	VIRGINIA HIGHLANDS	VIRGINIA WESTERN	WYTHEVILLE
Business Management	06.0101	Accounting	203	A	A		A		A	A	A	A	3	A	A	A		A			A	A	A	A	A	
		Banking & Finance	211		A	5	A		A	A				A	A	5							A			A
		H-R-I Management	235							A	A				A			6				A	A		A	A
		Management	212	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
		Marketing	( )													5										
		Beverage Marketing	( )								2															
		Merchandising	( )											3												
		Real Estate	272											6	A	7							A			A
		Transportation Mgt.	( )																							
		Accounting	202			X				C				C												
		Banking	226			C										C					C					
		Banking & Financial Management	231											C												
		Bookkeeping	204		C											C				C	C		C	C		
		Business and Industrial Supervision	220	C	C	C								C			C	C		C			C		C	C
		Executive Housekeeping	244							C													C			
		Food Service Management	241							C	C			C	C		C				C	C	C		C	C
		Hotel-Motel Management	240							X					C								C			
		General Business	208					C								C				C						
		Management Development	223							C											X					
		Office Management	224			C																				
		Real Estate	273							C				C	C											
		Records Management	201											C												
		Service Station Operations & Management	227												C											
		Small Business Management	232						C	C																
		Travel and Tourism	243												C											

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1981-82 VCCS Curricular Matrix of Existing Programs and Proposed Programs for 1982-90*

CLUSTER: Business Technology (continued)

DEGREE PROGRAM	CODE	PROGRAM AREA	VCCS CODE	BLUE RIDGE	CENTRAL VIRGINIA	DABNEY S. LANCASTER	DANVILLE	EASTERN SHORE	GERMANNA	J. SARGEANT REYNOLDS	JOHN TYLER	LORD FAIRFAX	MOUNTAIN EMPIRE	NEW RIVER	NORTHERN VIRGINIA	PATRICK HENRY	PAUL D. CAMP	PIEDMONT VIRGINIA	RAPPAHANNOCK	SOUTHSIDE VIRGINIA	SOUTHWEST VIRGINIA	THOMAS NELSON	TIDEWATER	VIRGINIA HIGHLANDS	VIRGINIA WESTERN	WYTHEVILLE
Business & Office	07.0601	Legal Assisting	260	6					6	A					2			6								
		Office Administration & Management	225												A	4		7					5			
		Secretarial Science	276	A	A	A	2	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
		Business Careers	284										C													
		Business Credit and Collections	228	X						C																
		Clerical Studies	218	C	C	C	X	C	C	C	C	C		C	C	C	C	C	C	C	C	C	C	C	C	C
		Clerk Stenography	275	C		C	C			C				C			C		C		C				C	
		Court & Conference Reporting	277							D																
		Educational Secretary	278				C			C	C			C								C	C		C	
		Insurance Administration	238	X						C																
		Legal Assistant	261	X	C	X				C					C						X	C	C		C	
		Machine Shorthand	287							C																
		Medical Office Clerk	285																							C
		Medical Transcriptionist	286				X																		C	
		Office Clerk	288			C																				
		Savings and Loan Administration	229																						C	
		Savings and Loan Administration	230							D																
		Word Processing	( )	X		X																				

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1981-82 VCCS Curricular Matrix of Existing Programs and Proposed Programs for 1982-90*

CLUSTER: Business Technology (continued)

DEGREE PROGRAM	CODE	PROGRAM AREA	VCCS CODE	BLUE RIDGE	CENTRAL VIRGINIA	DABNEY S. LANCASTER	DANVILLE	EASTERN SHORE	GERMANNA	J. SARGEANT REYNOLDS	JOHN TYLER	LORD FAIRFAX	MOUNTAIN EMPIRE	NEW RIVER	NORTHERN VIRGINIA	PATRICK HENRY	PAUL D. CAMP	PIEDMONT VIRGINIA	RAPPAHANNOCK	SOUTHSIDE VIRGINIA	SOUTHWEST VIRGINIA	THOMAS NELSON	TIDEWATER	VIRGINIA HIGHLANDS	VIRGINIA WESTERN	WYTHEVILLE
Data Processing	07.0301	Computer Programming	217													4			6							6
		Data Processing	209	A	A	4	A		3	A	A			4	A	6		A		4	2	A	A	4	A	A
		Auxiliary Equipment Operator	215							C																
		Computer/Machine Operations	210		C	C				C		X		C		C										
		Data Processing	214													D										
		Computer Programming (Basic)	( )															X	X	X						
Marketing	08.9999	Merchandising	252	A	A		A			A				2	A			A				A	A			
		General/Retail Merchandising	254	C		C														C	X		C			
		Sales & Sales Management	255							X				C												
		Supermarket Management	256											C												
		Fashion Merchandising	( )											X												
Transportation & Material Moving	49.9999	Air Traffic Control	905												A								4			
		Aviation Administration	282												A											
		Traffic & Transportation	280																				A		A	
		Flight Attendant	283												C											
		Transportation	281		C																					

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1981-82 VCCS Curricular Matrix of Existing Programs and Proposed Programs for 1982-90[A]

CLUSTER: Engineering & Industrial Technology

DEGREE PROGRAM	CODE	PROGRAM AREA	VCCS CODE	BLUE RIDGE	CENTRAL VIRGINIA	DABNEY S. LANCASTER	DANVILLE	EASTERN SHORE	GERMANNA	J. SARGEANT REYNOLDS	JOHN TYLER	LORD FAIRFAX	MOUNTAIN EMPIRE	NEW RIVER	NORTHERN VIRGINIA	PATRICK HENRY	PAUL D. CAMP	PIEDMONT VIRGINIA	RAPPAHANNOCK	SOUTHSIDE VIRGINIA	SOUTHWEST VIRGINIA	THOMAS NELSON	TIDEWATER	VIRGINIA HIGHLANDS	VIRGINIA WESTERN	WYTHEVILLE
Architectural & Construction Technology	15.0101	Architecture	901								A				A							A			A	
		Construction/Construction Management	917											A	A			6								
		Architectural Drafting	930	X										D											D	
		Building Construction	989								C															
		Carpentry	994							X						C				C			C			
		Construction Inspection	918												C								C			
		Constrection Management	919										X										D		C	
		Masonry	954																	C			C			
		Plumbing	962										C							C			C			
		Welding	995			X	X	X			C		X	C	C	C	C			C	C	C	C		C	
Civil Technology	15.0299	Civil	915		A					A	A				A								4		A	A
		Urban-Regional Planning & Development	993												A											
Electrical/Electronics Technology	15.0399	Broadcast Engineering	916												A											
		Electrical/Electronics	941	A	A	A		A	A	A	A	A	A	A	A		A	2	A	A	A	A	A	A	A	2
		Instrumentation	938								4			A		6							6			
		Biomedical Instrumentation	( )											6												
		Industrial Electronics	( )													4										
		Appliance Servicing	906				C						C	X	C								C			
		Electrical/Electronics	943						C	C				C		C							C			
		Electrical/Electronics	940				D											D								
		Electricity	942	C	C	C	C						C				C			C		C	C	C		C
		Electricity/Electronics/Instrumentation	947											D												

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1981-82 VCCS Curricular Matrix of Existing Programs and Proposed Programs for 1982-90*

CLUSTER: Engineering & Industrial Technology (continued)

DEGREE PROGRAM	CODE	PROGRAM AREA	VCCS CODE	BLUE RIDGE	CENTRAL VIRGINIA	DABNEY S. LANCASTER	DANVILLE	EASTERN SHORE	GERMANNA	J. SARGEANT REYNOLDS	JOHN TYLER	LORD FAIRFAX	MOUNTAIN EMPIRE	NEW RIVER	NORTHERN VIRGINIA	PATRICK HENRY	PAUL D. CAMP	PIEDMONT VIRGINIA	RAPPAHANNOCK	SOUTHSIDE VIRGINIA	SOUTHWEST VIRGINIA	THOMAS NELSON	TIDEWATER	VIRGINIA HIGHLANDS	VIRGINIA WESTERN	WYTHEVILLE
Electrical/Electronics Technology (continued)	15.0399	Electronics	925			C									C											
		Electrogics	933													D										
		Electronics Servicing	948		C													C	C		C					
		Electronics Servicing	949	D			D													D		D			D	
		Engineering/Technical Assistant	966																						C	
		Radio & Television Manufacutring & Servicing	972																				C			
		Computer Maintenance	( )			X																				
Environmental Control Technology	15.0599	Air Conditioning, Heating, & Refrigeration	904							A		6		4	A	6					8				9	3
		Energy Use & Conservation	934	6								6											3	6		
		Environmental & Science	830										3		A								6			
		Environmental Science	828							A																A
		Energy Technology	( )																							
		Air Conditioning & Refrigeration	903	X			C			X	C		C		C		C					C	C	C	C	
		Air Conditioning & Refrigeration	900				D									X				D				D		
		Environmental Control Operator	826																							C
		Environmental Control Operator	832																							D

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1981-82 VCCS Curricular Matrix of Existing Programs and Proposed Programs for 1982-90*

CLUSTER: Engineering & Industrial Technology (continued)

DEGREE PROGRAM	CODE	PROGRAM AREA	VCCS CODE	BLUE RIDGE	CENTRAL VIRGINIA	DABNEY S. LANCASTER	DANVILLE	EASTERN SHORE	GERMANNA	J. SARGEANT REYNOLDS	JOHN TYLER	LORD FAIRFAX	MOUNTAIN EMPIRE	NEW RIVER	NORTHERN VIRGINIA	PATRICK HENRY	PAUL D. CAMP	PIEDMONT VIRGINIA	RAPPAHANNOCK	SOUTHSIDE VIRGINIA	SOUTHWEST VIRGINIA	THOMAS NELSON	TIDEWATER	VIRGINIA HIGHLANDS	VIRGINIA WESTERN	WYTHEVILLE
Environmental Control Technology (continued)	15.0599	Environmental Operations	833							C																
		Science Technician Aide	827												C											
		Waste Water Treatment	834												C											
		Solar Energy Installation & Maintenance	835																		X		C			
		Water & Wastewater Treatment	837																							
General Engineering Technology	15.9999	General Engineering	968		A						A					4								A		
Industrial Production & Safety Technology	15.0699	Furniture Design	( )																							
		Furniture Production	935													B										3
		Industrial	963								A			A									A			
		Industrial Machinery Maintenance & Repair	936																							
		Industrial Mechanic	( )													7										
		Industrial Production Supervision	( )																							
		Quality & Reliability Control	( )															7								
		Agricultural/Industrial Machine Repair	971									C											C			
		Cabinet Making	932																	C						
		Cabinet Making	911																	D						
		Furniture Reconstruction	912																				C			
		Heavy Equipment Maintenance	969			C				C																

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1981-82 VCCS Curricular Matrix of Existing Programs and Proposed Programs for 1982-90*

CLUSTER: Engineering & Industrial Technology (continued)

DEGREE PROGRAM	CODE	PROGRAM AREA	VCCS CODE	BLUE RIDGE	CENTRAL VIRGINIA	DABNEY S. LANCASTER	DANVILLE	EASTERN SHORE	GERMANNA	J. SARGEANT REYNOLDS	JOHN TYLER	LORD FAIRFAX	MOUNTAIN EMPIRE	NEW RIVER	NORTHERN VIRGINIA	PATRICK HENRY	PAUL D. CAMP	PIEDMONT VIRGINIA	RAPPAHANNOCK	SOUTHSIDE VIRGINIA	SOUTHWEST VIRGINIA	THOMAS NELSON	TIDEWATER	VIRGINIA HIGHLANDS	VIRGINIA WESTERN	WYTHEVILLE
Industrial Production & Safety Technology (continued)	15.0699	Industrial Maintenance	990	X			X							C		X							C			
		Industrial Management	991													C		C				C	C			
		Industrial Practices	( )	X																						
		Industrial Services	992									X								D	X					
		Production Control	( )	X																						
		Vending Machine Servicing	944																							
		Woodworking	914																				C			
		Boiler Technology	929																				C			
		Machinery Repair	974									X														
		Mechanical	975																							
		Furniture Production Operator	( )																							X
Mechanical Technology	15.0899	Drafting & Design	921				6		6	A			A	A					A	A	A	A	A	A		A
		Machine	950											A												A
		Marine Engineering	( )																							
		Marine Science	953																A			A				
		Mechanical	956		A					6	A				A							A			A	
		Mechanical Design	967	A		A																				
		Drafting	922	C					C			C			C	C	C	C	C	C	C		C	C		C
		Drafting	926						D											D						D
		Drafting and Design	924							X				C												
		Drafting and Design	927				D							D				D								
		Machine Operations	957	X	C																					
		Machine Shop	959		C						C						C									
		Machine Shop	958				D										D							D		
		Machine Tool	960		D																	D				
		Machine Tool Operations	952					X						C	C						C	C	C	C		C
		Marine Maintenance Mechanics	955												C				C							

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1981-82 VCCS Curricular Matrix of Existing Programs and Proposed Programs for 1982-90*

CLUSTER: Engineering & Industrial Technology (continued)

DEGREE PROGRAM	CODE	PROGRAM AREA	VCCS CODE	BLUE RIDGE	CENTRAL VIRGINIA	DABNEY S. LANCASTER	DANVILLE	EASTERN SHORE	GERMANNA	J. SARGEANT REYNOLDS	JOHN TYLER	LORD FAIRFAX	MOUNTAIN EMPIRE	NEW RIVER	NORTHERN VIRGINIA	PATRICK HENRY	PAUL D. CAMP	PIEDMONT VIRGINIA	RAPPAHANNOCK	SOUTHSIDE VIRGINIA	SOUTHWEST VIRGINIA	THOMAS NELSON	TIDEWATER	VIRGINIA HIGHLANDS	VIRGINIA WESTERN	WYTHEVILLE
Mechanical Technology (continued)	15.0899	Mechanical Engineering	976							C								6								
		Technical Illustration	923												C											
		Blue Print Reading	928	X																						
		Machine Operations	951											D												
		Machine Design	( )	X																						
Mining & Petroleum Technology	15.0901	Mined Land Reclamation	973																		2					
		Mining	998										A								A					
		Ground Water Resources	999							C																
		Mine Machinery Maintenance	997																		C					
		Mining Technology & Supervision	985										C								X					
		Mining Safety	977																		X					
		Coal Boiler Technology	( )										X													
Nuclear Technology	41.0299	Nuclear	931							4													6			
Science Technologies		Science Laboratory	( )															4								
		General Laboratory	( )											X												
Quality Control & Safety Technology	15.0799	Occupational Safety & Health	498												A							A				
		Quality & Reliability Control	978																							
		Quality Control	979	X	C		X																			X
		Safety Technician	499	X											C											

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6/25/82

1981-82 VCCS Curricular Matrix of Existing Programs and Proposed Programs for 1982-90*

CLUSTER: Engineering & Industrial Technology (continued)

DEGREE PROGRAM	CODE	PROGRAM AREA	VCCS CODE	BLUE RIDGE	CENTRAL VIRGINIA	DABNEY S. LANCASTER	DANVILLE	EASTERN SHORE	GERMANNA	J. SARGEANT REYNOLDS	JOHN TYLER	LORD FAIRFAX	MOUNTAIN EMPIRE	NEW RIVER	NORTHERN VIRGINIA	PATRICK HENRY	PAUL D. CAMP	PIEDMONT VIRGINIA	RAPPAHANNOCK	SOUTHSIDE VIRGINIA	SOUTHWEST VIRGINIA	THOMAS NELSON	TIDEWATER	VIRGINIA HIGHLANDS	VIRGINIA WESTERN	WYTHEVILLE
Vehicle & Mobile Equipment Technology	47.0699	Airframe & Power Plant Mechanics	( )																				5			
		Aviation Technology	( )																							
		Automotive	909	7		6			A		A			A	A	5	A		A			A	A		A	
		Diesel Mechanics	( )										7								9					7
		Automotive Analysis and Repair	907	D			D	D	D			D		D		X				D			D		D	
		Automotive Body Mechanics	908				C			X				X	C								C			
		Automotive Diagnosis & Tune-up	910					C	C		C				C			C		C						
		Automotive Electronics Technician	984												C											
		Automotive Machinist	986												C											
		Automotive Mechanics	902		C	X				C		C		C			C	C	C			C	C		C	
		Automotive Parts Merchandising	987												C								C			
		Diesel Mechanics	920	C			X	C		C				X					X				C			
		Engine Mechanics	937											X		C										
		Motorcycle Maintenance	988					X						X	C											
		Auto Air Conditioning, Heating & Cooling	( )												X											
		Auto Transmission & Power	( )												X											

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1981-82 VCCS Curricular Matrix of Existing Programs and Proposed Programs for 1982-90*

CLUSTER: Health Technology

DEGREE PROGRAM	CODE	PROGRAM AREA	VCCS CODE	BLUE RIDGE	CENTRAL VIRGINIA	DABNEY S. LANCASTER	DANVILLE	EASTERN SHORE	GERMANNA	J. SARGEANT REYNOLDS	JOHN TYLER	LORD FAIRFAX	MOUNTAIN EMPIRE	NEW RIVER	NORTHERN VIRGINIA	PATRICK HENRY	PAUL D. CAMP	PIEDMONT VIRGINIA	RAPPAHANNOCK	SOUTHSIDE VIRGINIA	SOUTHWEST VIRGINIA	THOMAS NELSON	TIDEWATER	VIRGINIA HIGHLANDS	VIRGINIA WESTERN	WYTHEVILLE
Dental Hygiene	17.0102	Dental Hygiene	118												A										A	
		Dental Assisting	120							C					C										C	C
Dental Laboratory	17.0103	Dental Laboratory	117							A					A								7			
Dietetics	19.0503	Dietetics	119						6						A											
		Dietetic Assistant	116												C								C			
Emergency Medical Services	17.0206	Emergency Medical Services	146						7						A	6										
		Emergency Medical Services	145										X		C	X										
Funeral Services	12.0301	Funeral Services	155								A															
Medical Assisting	17.0503	Medical Assisting	165							A																
Medical Laboratory	17.0309	Medical Laboratory	151		A					A					A	6		4			9	A			6	A
		Medical Laboratory Assistant	140																							C
Medical Records	17.0506	Medical Records	152		A										A								A			
		Medical Records Assistant	( )															X								
Mental Health	17.0406	Mental Health	154	A							A					8									A	A
		Mental Health	153																							C

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1981-82 VCCS Curricular Matrix of Existing Programs and Proposed Programs for 1982-90*

CLUSTER: Health Technology (continued)

DEGREE PROGRAM	CODE	PROGRAM AREA	VCCS CODE	BLUE RIDGE	CENTRAL VIRGINIA	DABNEY S. LANCASTER	DANVILLE	EASTERN SHORE	GERMANNA	J. SARGEANT REYNOLDS	JOHN TYLER	LORD FAIRFAX	MOUNTAIN EMPIRE	NEW RIVER	NORTHERN VIRGINIA	PATRICK HENRY	PAUL D. CAMP	PIEDMONT VIRGINIA	RAPPAHANNOCK	SOUTHSIDE VIRGINIA	SOUTHWEST VIRGINIA	THOMAS NELSON	TIDEWATER	VIRGINIA HIGHLANDS	VIRGINIA WESTERN	WYTHEVILLE
Nursing	18.1101	Nursing	156	4		A			A	A	A		A		X	A		A	A	4	A	A	A	A	A	A
		Health Technology Assistant	190															C								
		Nursing Assistant	158				C							X												
		Practical Nursing	157			X	C							C			X		X							
		Geriatric Home Care Nursing	( )	X										X												
		Nurse's Aide (Geriatric)	( )																X							
Opticianry	17.0705	Opticianry	160							A												A	7			
Physical Therapy	17.0813	Physical Therapy	180						6						A								2		7	6
Radiography	17.0209	Radiography	172		A					9			A		A			3			A		A	A	A	A
Respiratory Therapy	17.0210	Respiratory Therapy	181							6			7		A			A			7		A		7	
		Respiratory Therapy	182		C					C			C			C		X			C		C		C	
		Respiratory Therapy	( )							X																
Occupational Therapy Assistant	( )	Occupational Therapy Assistant	( )												6											
Nuclear Medicine	( )	Nuclear Medicine	( )																						6	
Radiation Oncology	( )	Radiation Oncology	( )																						8	

*A = Associate in Applied Science Degree; B = Associate in Arts and Science Degrees; C = Certificate; D = Diploma; X = proposed Certificate/Diploma programs; numbers indicate Year of Initiation of proposed degree programs, i.e., 3 = 1983, 5 - 1985, etc.

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6/25/82

1981-82 VCCS Curricular Matrix of Existing Programs and Proposed Programs for 1982-90*

CLUSTER: Public Service Technology

DEGREE PROGRAM	CODE	PROGRAM AREA	VCCS CODE	BLUE RIDGE	CENTRAL VIRGINIA	DABNEY S. LANCASTER	DANVILLE	EASTERN SHORE	GERMANNA	J. SARGEANT REYNOLDS	JOHN TYLER	LORD FAIRFAX	MOUNTAIN EMPIRE	NEW RIVER	NORTHERN VIRGINIA	PATRICK HENRY	PAUL D. CAMP	PIEDMONT VIRGINIA	RAPPAHANNOCK	SOUTHSIDE VIRGINIA	SOUTHWEST VIRGINIA	THOMAS NELSON	TIDEWATER	VIRGINIA HIGHLANDS	VIRGINIA WESTERN	WYTHEVILLE
Communication Technology	10.0104	Radio & Television Production	965																				4		A	
		Applied Music	556											C												
		Technical Theater	517																				D			
		Radio & Television Communications	( )	X																						
		Broadcasting	( )																				X			
Community Services/Public Administration	44.0101	Community & Social Services	176							A				A				A					A			
		Public Administration	465																			A	3			
		Community & Social Services	175											C												
		Public Administration	466	X																		C				
Educational Services	13.9999	Early Childhood Development	636													8							A			
		Educational Services	628											2	A								A		A	
		Special Education	627																							
		Teacher Training for Developmentally Disabled	474																				A			
		Child Care	634	C	C	X	C			X	C			C		C		C			C				C	
		Early Childhood Development	632												C							C	C			
		Educational Assistant	630				C						C		C										C	
		Educational Assistant	631														D					D				
		Library Technical Assistant	635																				C			

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1981-82 VCCS Curricular Matrix of Existing Programs and Proposed Programs for 1982-90*

CLUSTER: Public Service Technology (continued)

DEGREE PROGRAM	CODE	PROGRAM AREA	VCCS CODE	BLUE RIDGE	CENTRAL VIRGINIA	DABNEY S. LANCASTER	DANVILLE	EASTERN SHORE	GERMANNA	J. SARGEANT REYNOLDS	JOHN TYLER	LORD FAIRFAX	MOUNTAIN EMPIRE	NEW RIVER	NORTHERN VIRGINIA	PATRICK HENRY	PAUL D. CAMP	PIEDMONT VIRGINIA	RAPPAHANNOCK	SOUTHSIDE VIRGINIA	SOUTHWEST VIRGINIA	THOMAS NELSON	TIDEWATER	VIRGINIA HIGHLANDS	VIRGINIA WESTERN	WYTHEVILLE
Educational Services (continued)	13.9999	Teacher/Instructional Aide	629		C				C	C	C						C		C							
		Developmental Disabilities Specialist	473																				C			
		Interpreter Training	633							X																
		Library/Media Technology	( )							X																
Human Services	17.0499	Alcohol & Drug Abuse Rehabilitation	401																							
		Gerontology	402													7		7					2			
		Human Services	480		A						A				A	6		6		A		A		A		5
		Career Studies	221	C		C				C		C	C	C		C	C	C	X	X	C	C	C	C		C
		Cooperative Career Development	467																	C						
		Cosmetology	410																			C				
		Human Services	469		C															C				C		
		Specialist in Aging	472																			C	C			
Parks & Recreation	31.0101	Recreation & Parks	460						7						A											
		Recreation & Leadership	459							A						7							A			
Protective Services	43.9999	Administration of Justice	400							A							A									
		Corrections Science	462												A					A					8	
		Fire Science	427		A					A		A			A							A	A			
		Police Science	464	A	A	A	A		A		A	A	4	A	A			A	A	A		A	A	A	A	A

*A = Associate in Applied Science Degree; B = Associate in Arts and Science Degrees; C = Certificate; D = Diploma; X = proposed Certificate/Diploma programs; numbers indicate Year of Initiation of proposed degree programs, i.e., 3 = 1983, 5 = 1985, etc.

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1981-82 VCCS Curricular Matrix of Existing Programs and Proposed Programs for 1982-90*

CLUSTER: Public Service Technology (continued)

DEGREE PROGRAM	CODE	PROGRAM AREA	VCCS CODE	BLUE RIDGE	CENTRAL VIRGINIA	DABNEY S. LANCASTER	DANVILLE	EASTERN SHORE	GERMANNA	J. SARGEANT REYNOLDS	JOHN TYLER	LORD FAIRFAX	MOUNTAIN EMPIRE	NEW RIVER	NORTHERN VIRGINIA	PATRICK HENRY	PAUL D. CAMP	PIEDMONT VIRGINIA	RAPPAHANNOCK	SOUTHSIDE VIRGINIA	SOUTHWEST VIRGINIA	THOMAS NELSON	TIDEWATER	VIRGINIA HIGHLANDS	VIRGINIA WESTERN	WYTHEVILLE
Protective Services (continued)	43.9999	Security Administration	470											3	A											
		Corrections	461	X						C				C	C		C			C		C	C			C
		Firefighting	428	X	C		X			X				C	C							C			C	
		Forensic Science	475											C												
		Law Enforcement	463	X	C	C						C	C	C	C		C	C	C	C	C		C	C		C
		Military Management	290																			C				
		Security Administration	( )	X																						
		Industrial & Commercial Security	( )											X												

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June 25, 1982
(Revised)

Appendix D

STANDARDS AND CRITERIA FOR PROGRAM PLANNING, REVIEW AND APPROVAL

AND

CURRICULUM APPRAISAL FORM

STANDARDS AND CRITERIA
FOR
PROGRAM PLANNING, REVIEW AND APPROVAL

I. COLLEGE MISSION AND GOALS

STANDARD A: THE PROPOSED PROGRAM SHALL BE RELATED TO AND CONSISTENT WITH THE COLLEGE'S MISSION, GOALS CURRICULAR EMPHASIS.

Criteria

1. Description of how the proposed program is complementary to the declared mission of the college, to its stated goals as reported in the college's master plan, and how it is consistent with the curricular emphasis of the college.

2. Description of any plans for additional curricular developments in the proposed program area.

3. Written rationale for any new curricular thrust.

II. PROGRAM DEMAND

STANDARD B: THE PROPOSED PROGRAM SHALL HAVE PROJECTED ENROLLMENTS SUFFICIENT TO SUPPORT THE PROGRAM.

Criteria

1. Documentation of student interest and demand for the proposed program.

2. Documentation of how the proposed program's enrollment affects projected college enrollment.

3. Description of how the proposed program enrollments compare with service area population characteristics.

STANDARD C: THE PROPOSED PROGRAM SHALL HAVE RELEVANT EMPLOYMENT OPPORTUNITY SUFFICIENT TO SUPPORT THE PROGRAM'S PROJECTED ENROLLMENT.

Criteria

1. Documentation of compelling local manpower requirements over the pool of trained personnel in the field represented by the proposed program within the college's service region.
2. Documentation of critical regional or statewide demand for trained manpower which exceeds the pool of available personnel in the field represented by the proposed program.
3. Documentation of a strong trend or an anticipated need for trained manpower in the field represented by the proposed program.

III. PROGRAM COSTS AND FUNDING

STANDARD D: THE PROPOSED PROGRAM SHALL HAVE ESTIMATED COSTS COMPARABLE TO THE COSTS OF SIMILAR AND/OR IDENTICAL PROGRAMS OFFERED BY OTHER VCCS COLLEGES.

Criterion

1. Documentation that the estimated costs for the proposed program are justified and within the range of program costs for other similar programs in VCCS colleges.

STANDARD E: THE PROPOSED PROGRAM SHALL BE ADEQUATELY SUPPORTED WITH FINANCIAL RESOURCES.

Criteria

1. Demonstration that the financial resources of the college are adequate to support and sustain the proposed program.
2. Identification and description of any supplemental funding sources and commitments to partially support the proposed program.

IV. PROGRAM STAFFING

STANDARD F: THE PROPOSED PROGRAM SHALL BE ADEQUATELY STAFFED BY APPROPRIATE FACULTY RESOURCES WITHIN THE STAFFING GUIDELINES OF THE VCCS WITHOUT A RESULTING DETRIMENTAL EFFECT ON OTHER EXISTING PROGRAMS.

Criteria

1. Documentation that institutional staffing targets provide for the addition of instructional personnel to support the proposed program.

2. Demonstration that appropriate faculty resources currently available can be shared with or reassigned to the proposed program without detrimentally affecting existing programs.

3. Description of how any personnel will be provided through external resources which does not impact on institutional staffing targets, and how these personnel will be funded when the external resources are depleted.

4. Description of how any existing professional expertise within the college will be utilized in the development and implementation of the proposed program.

V. PROGRAM FACILITIES

STANDARD G: THE PROPOSED PROGRAM SHALL BE ADEQUATELY SUPPORTED BY AVAILABLE, ATTAINABLE, OR ACCESSIBLE PHYSICAL FACILITIES TO INCLUDE CLASSROOMS, LABORATORY, SHOP, AND/OR CLINICAL ACCOMMODATION.

Criteria

1. Description of all space and specialized facilities requirements necessary to support the proposed program.

2. Description of what physical facilities to meet program requirements exist on campus and do not require major renovations.

3. Description of any appropriate agreements for the provision of physical facilities to meet program requirements within the college's operating budget.

4. Description of any authorized and budgeted construction which will provide the physical facilities to meet program requirements.

5. Demonstration that the physical facilities to support the proposed program meet or exceed the facilities standards set by relevant specialized accreditation agencies.

6. Demonstration that the physical facilities to support the proposed program are available at appropriate times and for sufficient duration.

VI. PROGRAM EQUIPMENT

STANDARD H: THE PROPOSED PROGRAM SHALL BE ADEQUATELY SUPPORTED BY AVAILABLE, ATTAINABLE, OR ACCESSIBLE INSTRUCTIONAL EQUIPMENT AND RESOURCES NECESSARY FOR INITIATION AND MAINTENANCE OF A QUALITY PROGRAM.

Criteria

1. Description of all instructional equipment and resources necessary to support the initiation and maintenance of the proposed program.

2. Description and estimation of the dollar value of current equipment and resources available to support the proposed program for the first two bienniums.

3. Description, estimation of the dollar value, and identification of any funding sources for additional equipment and resources required to support the program during the first two bienniums.

4. Description of estimated equipment costs to be included in the current and/or future institutional budgets necessary to meet the equipment and resource requirements of the proposed program.

5. Identification and description of any contributions or commitments to assist the college in meeting the equipment and resource requirements of the proposed program.

VII. PROGRAM COORDINATION AND ACCESSIBILITY

STANDARD I: THE PROPOSED PROGRAM SHALL NOT UNNECESSARILY DUPLICATE EXISTING OR PROPOSED PROGRAMS IN OTHER NEIGHBORING INSTITUTIONS WHICH NORMALLY CAN BE EXPECTED TO MEET EMPLOYMENT DEMANDS.

Criteria

1. Identification of all existing or planned programs related or identical to the proposed program which are or will be available in other institutions located in the college's service area.

2. Assessment of the duplication of the proposed program with existing or proposed programs in other neighboring institutions.

STANDARD J: THE PROPOSED PROGRAM SHALL BE ACCESSIBLE TO POTENTIAL STUDENTS WHO ARE NOT PRESENTLY BEING SERVED BY EXISTING PROGRAMS LOCATED IN OTHER GEOGRAPHIC AREAS OF THE STATE.

Criterion

1. Description of how the proposed program will serve students who are not presently being served by an existing identical program at another VCCS college.

VIII. STATEWIDE AND REGIONAL PROGRAM PRODUCTIVITY

STANDARD K: THE PROPOSED PROGRAM SHALL BE POTENTIALLY SUCCESSFUL AS INDICATED BY STUDENT ENROLLMENT AND GRADUATE TRENDS OF SIMILAR AND/OR IDENTICAL PROGRAMS CURRENTLY EXISTING IN THE VCCS COLLEGES.

Criteria

1. Documentation of substantial student enrollment for similar and/or identical programs currently existing in other VCCS colleges.

2. Documentation of relevant graduate trends for similar and/or identical programs currently existing in other VCCS colleges.

STANDARD L: THE PROPOSED PROGRAM SHALL BE POTENTIALLY STABLE AS ASSESSED AGAINST SIMILAR AND/OR IDENTICAL VCCS PROGRAMS WHICH HAVE BEEN DISCONTINUED DURING THE THREE-YEAR PERIOD IMMEDIATELY PRECEDING THE DATE OF PROPOSAL SUBMISSION.

Criterion

1. Assessment of the stability of the proposed program against similar and/or identical VCCS college programs that have been discontinued during the three-year period immediately preceding the date of proposal submission.

VIRGINIA COMMUNITY COLLEGE SYSTEM

CURRICULUM APPRAISAL FORM

Title of Proposed Curriculum ______________________________

College ______________________________

Starting Date ____________ Classfication ____________________
(Degree Program, Major)

Appraisal Procedure for New Curriculum:

A. All materials and documents submitted with a request for a new curriculum should be carefully examined for completeness.

B. The curriculum proposal should be reviewed by a minimum of three qualified appraisers, using this form.

C. After assigning numerical values to standards for curriculum approval, as explained below, the weighted scores should be totaled and recorded in the space provided at the bottom of the form.

D. The totals of the weighted scores assigned by the three (or more) appraisers should be averaged. The resulting mean weighted score becomes the Final Appraisal Score for the proposed curriculum.

E. The actions to be taken on the proposed new curriculum may be determined by comparing the final appraisal score with the score intervals as shown on the scale in F below.

F. Summary of appraisal.

Final Appraisal Score

__-__---------------------Program recommended for approval

__-__---------------------Program recommended for approval but with contingencies

__-__---------------------Program not recommended for approval

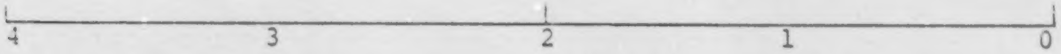
Scoring the Criteria for Appraisal

Below are listed several standards which have been established for appraising a new curriculum for approval. Under each of the standards are one or more "criteria", related to the standard and further expanding its meaning.

To help in the scoring of a standard, the criteria should first be considered. Data needed to support the criteria should be reviewed and analyzed before assigning a score in Box A for the related standard. Each criterion should be checked (✓) for either YES or SOME EXTENT or NO. This procedure should provide a basis for scoring the standard.

After each standard there is a Box A $\overset{A}{\square}$ for recording a base score for the standard. Using the scoring scale below, each standard should be appraised with reference to all relevant data and particularly those represented by the criteria. The score recorded in Box A should represent what the appraiser believes best describes the standard with reference to the curriculum proposal.

Proposal Meets Standard Fully	Proposal Meets Standard To Some Extent but not Strongly	Proposal Does Not Meet Standard



For each standard there is a weight factor in parenthesis ( ). This number represents the relative importance of a standard in determining the merits for approval of a proposed curriculum.

By multiplying the base score in Box A by the weight factor, the weighted score for the standard is obtained and should be indicated in Box B $\overset{B}{\square}$.

After each criterion on the form is space for a brief statement or a reference to specific data which influenced the score given to a standard.

STANDARDS AND CRITERIA FOR
PROGRAM PLANNING, REVIEW AND APPRAISAL

Curriculum Appraisal Form

I. COLLEGE MISSION AND GOALS (2)*

STANDARD A: THE PROPOSED PROGRAM SHALL BE RELATED TO AND CONSISTENT WITH THE COLLEGE'S MISSION, GOALS, AND CURRICULAR EMPHASIS.

A		**B**
☐	X (2) =	☐
Base Score		Weighted Score

Criteria

1. Description of how the proposed program is complementary to the declared mission of the college, to its stated goals as reported in the college's master plan, and how it is consistent with the curricular emphasis of the college........................

____

____

____

YES	**SOME EXTENT**	**NO**
( )	( )	( )

2. Description of any plans for additional curricular developments in the proposed program area......

____

____

____

YES	**SOME EXTENT**	**NO**
( )	( )	( )

3. Written rationale for any new curricular thrust..................

____

____

____

YES	**SOME EXTENT**	**NO**
( )	( )	( )

II. PROGRAM DEMAND (6)

STANDARD B: THE PROPOSED PROGRAM SHALL HAVE PROJECTED ENROLLMENTS SUFFICIENT TO SUPPORT THE PROGRAM. (3)

A		**B**
☐	X (3) =	☐
Base Score		Weighted Score

Criteria

1. Documentation of student interest and demand for the proposed program..........................

____

____

____

YES	**SOME EXTENT**	**NO**
( )	( )	( )

*Weights

2. Documentation of how the proposed program's enrollment affects projected college enrollment....................

____

____

____

YES	SOME EXTENT	NO
( )	( )	( )

3. Description of how the proposed program enrollments compare with service area population characteristics.......

____

____

____

YES	SOME EXTENT	NO
( )	( )	( )

STANDARD C: THE PROPOSED PROGRAM SHALL HAVE RELEVANT EMPLOYMENT OPPORTUNITY SUFFICIENT TO SUPPORT THE PROGRAM'S PROJECTED ENROLLMENT. (3)

A		B
☐	X (3) =	☐
Base Score		Weighted Score

1. Documentation of compelling local manpower requirements over the pool of trained personnel in the field represented by the proposed program within the college's service region..................

____

____

____

YES	SOME EXTENT	NO
( )	( )	( )

2. Documentation of critical regional or statewide demand for trained manpower which exceeds the pool of available personnel in the field represented by the proposed program.............

____

____

____

YES	SOME EXTENT	NO
( )	( )	( )

3. Documentation of a strong trend or an anticipated need for trained manpower in the field represented by the proposed program.

____

____

____

YES	SOME EXTENT	NO
( )	( )	( )

III. PROGRAM COSTS AND FUNDING (4)

STANDARD D: THE PROPOSED PROGRAM **SHALL** HAVE ESTIMATED COSTS COMPARABLE TO THE COSTS OF SIMILAR AND/OR IDENTICAL PROGRAMS OFFERED BY OTHER VCCS COLLEGES. (2)

A		B
☐	X (2) =	☐
Base Score		**Weighted** Score

Criterion

1. Documentation that the estimated costs for the proposed program are justified and within the range of program costs for other similar programs **in** VCCS colleges.......

YES	**SOME EXTENT**	**NO**
( )	( )	( )

STANDARD E: THE PROPOSED PROGRAM **SHALL BE ADEQUATELY SUPPORTED WITH FINANCIAL** RESOURCES. (2)

A		B
☐	**X (2) =**	☐
Base Score		**Weighted Score**

Criteria

1. **Demonstration that the financial** resources **of the college** are adequate to support and sustain the proposed program.

YES	SOME **EXTENT**	**NO**
( )	( )	( )

2. Identification and description of any supplemental funding sources and commitments to partially support the proposed program......................

YES	**SOME EXTENT**	**NO**
( )	( )	( )

IV. PROGRAM STAFFING (4)

STANDARD F: THE PROPOSED PROGRAM SHALL BE ADEQUATELY STAFFED BY APPROPRIATE FACULTY RESOURCES WITHIN THE STAFFING GUIDELINES OF THE VCCS WITHOUT A RESULTING DETRIMENTAL AFFECT ON OTHER EXISTING PROGRAMS.

A		**B**
☐	X (4) =	☐
Base Score		**Weighte** Score

Criteria

1. Documentation that institutional staffing targets provide for the addition of instructional personnel to support the proposed program...................

YES	**SOME EXTENT**	**NO**
( )	( )	( )

2. Demonstration **that appropriate** faculty resources **currently** available can be shared **with or** reass**igned to the proposed pro**gram without detrimentally affecting existing programs..........

YES	**SOME EXTENT**	**NO**
( )	( )	( )

3. Description of how any personnel will be provided through external resources which does not impact on institutional staffing targets, and how these personnel will be funded when the external resources are depleted.......................

YES	SOME EXTENT	NO
( )	( )	( )

4. Description of how any existing professional expertise within the college will be utilized in the development and implementation of **the proposed program**...........

YES	**SOME EXTENT**	**NO**
( )	( )	( )

V. PROGRAM FACILITIES (6)

STANDARD G: THE PROPOSED PROGRAM SHALL BE ADEQUATELY SUPPORTED BY AVAILABLE, ATTAINABLE, OR ACCESSIBLE PHYSICAL FACILITIES TO INCLUDE CLASSROOMS, LABORATORY, SHOP, AND/OR CLINICAL ACCOMMODATION.

A		B
☐	X (6) =	☐
Base Score		Weighted Score

Criteria

1. Description of all space and specialized facilities requirements necessary to support the proposed program............

   ____
   ____
   ____

YES	SOME EXTENT	NO
( )	( )	( )

2. Description of what physical facilities to meet program requirements **exist** on campus and do not **require** major renovations......................

   ____
   ____
   ____

YES	SOME EXTENT	NO
( )	( )	( )

3. Description of any appropriate agreements for the provision of physical facilities to meet program requirements within the college's operating budget...

   ____
   ____
   ____

YES	SOME EXTENT	NO
( )	( )	( )

4. Description of any authorized and budgeted construction which will provide the physical facilities to meet program requirements......................

   ____
   ____
   ____

YES	SOME EXTENT	NO
( )	( )	( )

5. Demonstration that the physical facilities to support the proposed program meet or exceed the facilities standards set by relevant specialized accreditation agencies..................

____

____

____

YES	SOME EXTENT	NO
( )	( )	( )

6. Demonstration that the physical facilities to support the proposed program are available at appropriate times and for sufficient duration.................

____

____

____

YES	SOME EXTENT	NO
( )	( )	( )

VI. PROGRAM EQUIPMENT (6)

STANDARD H: THE PROPOSED PROGRAM SHALL BE ADEQUATELY SUPPORTED BY AVAILABLE, ATTAINABLE, OR ACCESSIBLE INSTRUCTIONAL EQUIPMENT AND RESOURCES NECESSARY FOR INITIATION AND MAINTENANCE OF A QUALITY PROGRAM.

A		B
☐	X (6) =	☐
Base Score		**Weighted** Score

Criteria

1. Description of all instructional equipment and resources necessary to support the initiation and maintenance of the proposed program........

____

____

____

YES	SOME EXTENT	NO
( )	( )	( )

2. Description and estimation of the dollar value of current equipment and resources available to support the proposed program for the first two bienniums..................

____

____

____

YES	SOME EXTENT	NO
( )	( )	( )

3. Description, estimation of the dollar value, and identification of any funding sources for additional equipment and resources required to support the program during the first two bienniums.

____

____

____

YES	SOME **EXTENT**	NO
( )	( )	( )

4. Description of estimated equipment costs to be included in the current and/or future institutional budgets necessary to meet the equipment and resource requirements of the proposed program..........................

____

____

____

YES	SOME EXTENT	**NO**
( )	( )	( )

5. Identification and description of any contributions or commitments to assist the college in meeting the equipment and resource requirements of the proposed program........................

____

____

____

YES	SOME EXTENT	NO
( )	( )	( )

VIII. PROGRAM COORDINATION AND ACCESSIBILITY (4)

STANDARD I: THE PROPOSED PROGRAM SHALL NOT UNNECESSARILY DUPLICATE EXISTING OR PROPOSED PROGRAMS IN OTHER NEIGHBORING INSTITUTIONS WHICH NORMALLY CAN BE EXPECTED TO MEET EMPLOYMENT DEMANDS. (2)

A		B
☐	X (2) =	☐
Base Score		**Weighted** Score

1. Identification of all existing or planned programs related or identical to the proposed program which are or will be available in other institutions located in the college's service area...................

____

____

____

YES	SOME EXTENT	NO
( )	( )	( )

2. Assessment of the duplication of the proposed program with existing or proposed programs in other neighboring institutions.................

YES ( ) SOME EXTENT ( ) NO ( )

STANDARD J: THE PROPOSED PROGRAM SHALL BE ACCESSIBLE TO POTENTIAL STUDENTS WHO ARE NOT PRESENTLY BEING SERVED BY EXISTING PROGRAMS LOCATED IN OTHER GEOGRAPHIC AREAS OF THE STATE. (2)

A ☐ X (2) = B ☐
Base Score
Weighted Score

Criterion

1. Description of how the proposed program will serve students who are not presently being served by an existing identical program at another VCCS college.................

YES ( ) **SOME EXTENT** ( ) **NO** ( )

VIII. STATEWIDE AND REGIONAL PROGRAM PRODUCTIVITY (6)

STANDARD K: THE PROPOSED PROGR**AM SHALL** BE **POTENTIALLY** SUCCESSFUL AS INDICA**TED** BY **STUDENT ENROLLMENT AND** GRADUATE TRENDS OF **SIMILAR AND**/OR **IDENTICAL** PROGRAMS CURRENTLY **EXISTING IN THE** VCCS COLLEGES. (3)

A ☐ **X** (3) = B ☐
Base Score
Weighted Score

Criteria

1. Documentation of substantial student enrollment for similar and/or identical **programs** currently existing in other VCCS colleges.......................

YES ( ) **SOME EXTENT** ( ) **NO** ( )

2. Documentation of relevant graduate trends for similar and/or identical programs currently existing in other VCCS colleges.............

YES	SOME EXTENT	NO
( )	( )	( )

STANDARD L: THE PROPOSED PROGRAM SHALL BE POTENTIALLY STABLE AS ASSESSED AGAINST SIMILAR AND/OR IDENTICAL VCCS PROGRAMS WHICH HAVE BEEN DISCONTINUED DURING THE THREE YEAR PERIOD IMMEDIATELY PRECEDING THE DATE OF PROPOSAL SUBMISSION. (3)

A		B
☐	X (3) =	☐
Base Score		**Weighted** Score

Criterion

1. Assessment of the stability of the proposed program against similar and/or identical VCCS college programs that have been discontinued during the **three-year period immediately** preceding the date of proposal submission.........

YES	SOME EXTENT	NO
( )	( )	( )

Appendix E

VIRGINIA COMMUNITY COLLEGE SYSTEM

JOINT AND COOPERATIVE CURRICULAR PROGRAM PROPOSAL GUIDELINES

VIRGINIA COMMUNITY COLLEGE SYSTEM

JOINT AND COOPERATIVE CURRICULAR PROGRAM PROPOSAL GUIDELINES

Introduction

From the inception of the Community College System in Virginia in 1966, by philosophy and practice, serious and sustained efforts have been made to develop a high quality post-secondary educational system to serve the educational needs of the Commonwealth. The System expanded rapidly during its formative years and at this time, a community college is located within a reasonable commuting distance from any citizen who may be living in any quarter of the Commonwealth. The emphasis of the System on access to quality post-secondary educational opportunities was recently reaffirmed and is stated thusly in the first sentence of the community college mission: "The Virginia Community College System functions within the total educational community to assure that all individuals in the Commonwealth of Virginia are given a continuing opportunity for the development and extension of their skills and knowledge through quality programs and services that are financially and geographically accessible."

As the initial phase in the development of the System has been concluded and the System has begun to mature, limitations on public resources have come to play an important part in the future development of educational programs. To maintain quality programs and services, the VCCS has, therefore, made a commitment to the joint and cooperative curricular approach in the development of programs offered on the various campuses throughout the Commonwealth. This commitment seeks to use available resources, both financial and human, to the fullest extent possible in developing programs required to meet a changing society.

The challenge of planning for the local, regional, and statewide program requirements with the available resources requires a creative approach to program development. For purposes of discussion, these program development efforts may be divided into two types: (1) Joint and (2) Cooperative. A joint program is one in which two or more institutions share resources relatively equally and each institution has approval to offer the award. A cooperative program is one that leads to an award from only one of the collaborating institutions but resources such as facilities, curricula, and faculty are shared in some defined manner. New degree programs, expansion of existing degree programs, development of new degree program majors, and expansion of degree program majors are included in these program development efforts.

Initiation of Program Proposals

The primary burden of identifying and justifying joint or cooperative programming efforts rests with the collaborating colleges offering or proposing the specific program. These colleges would signify their interest in establishing a joint or cooperative program by submitting a cooperatively developed Joint/Cooperative Program Proposal to the instructional programs division of the Virginia Community College System. The VCCS instructional programs staff would be responsible for thoroughly reviewing the proposal and developing recommendations, based upon established criteria, for the collaborating colleges, the Chancellor, and the State Board for Community Colleges. After appropriate discussions with the colleges, the proposal would be referred to the Chancellor and State Board for action.

In addition to identification of joint and cooperative programming efforts by the colleges, from time to time the VCCS staff, the Chancellor, the State Board for Community Colleges, the State Council of Higher Education for Virginia, and other external groups, may request that a program proposal be developed by specific VCCS colleges.

Also, new programs proposed by a single college or existing programs offered individually by colleges may be recommended by these same individuals or groups for collaborative consideration.

General Criteria

Generally, only degree program proposals will be required to follow the guidelines for joint and cooperative program proposals. However, consistent with the Virginia Community College System's interests in maximum utilization of resources, colleges may be encouraged to consider joint and cooperative planning of related majors, certificate and diploma programs.

The criteria for joint program proposals will differ little from the criteria considered in the approval process for any other type of program proposal. In considering joint new degree programs and in instances where existing degree programs become joint programs, both VCCS and State Council of Higher Education for Virginia (SCHEV) requirements must be met.

The criteria for cooperative program proposals will vary according to the complexity of the arrangement. Before the cooperative program proposal is developed, the VCCS instructional programs staff will specify those sections of the Joint/Cooperative Proposal Form to be completed.

The criteria to be considered for the approval process will include enrollment, student support services, employment opportunities and distribution, articulation and business/industrial/governmental agreements, geographical demographics, program cost per credit hour, annual operating costs, existing resources, one-time start-up expenditures, capital outlay requirements, and the nature of the agreement between collaborating colleges specifying the unique arrangements for staffing and reporting FTES and graduates of the program.

Enrollment

A joint or cooperative program proposal must address student demand for the proposed program, identify the geographical area from which students would be attracted, describe any enrollment arrangements including such things as reserving spaces for out-of-area students and describe the availability, type, and cost of student housing in the area.

Section II of the Joint/Cooperative Program Proposal and a SCHEV P-10 Form must be completed to provide enrollment-related information. Enrollment information must be documented from local, state, or national data sources such as planning district offices, the Tayloe-Murphy Institute, the U. S. Census Bureau, Bureau of Labor, the Virginia Employment Commission, local needs surveys, and the institutional master plan.

Student Support Services

The nature of a joint or cooperative program will likely require students to occasionally commute greater distances than if the program were offered exclusively by the community college located in the students' home region. Therefore, it is encumbent upon the participating institutions to demonstrate that adequate counseling, financial aid, placement, veteran affairs, and housing services are available to students.

Relationship of Geographical Area Served and Manpower Required

Joint or cooperative programs should address the manpower training needs of the geographical area served. Frequently, these training needs will demand specialized high-cost programs and/or low enrollment programs. By considering a joint or cooperative programming approach to meeting these manpower requirements an area greater than that of a single political subdivision can be met, quite often, at a much-reduced cost to the participating colleges.

The geographical area included in the joint or cooperative program proposal should generally constitute the area of the Commonwealth where the greatest employment opportunities exist for the students in that program speciality. In some cases, employment outside the geographical area served may be used to further substantiate the need for the proposed program.

Completion of Section III of the Joint/Cooperative Program Proposal will serve to address the relationship of the geographical area served and manpower requirements. In completing Section III, data obtained and utilized from the census, State Department of Industrial Development, planning district offices, Virginia Employment Commission, Chamber of Commerce, Tayloe-Murphy Institute, etc. will enhance the documentation of program need.

Mutually Beneficial Agreements

Joint and cooperative programs by their nature require extensive planning, monitoring, and evaluation. A part of this process would be the development of mutually beneficial agreements between participating colleges and area clinical facilities, industries, businesses, agencies, governmental groups, educational institutions and the like. Agreements may take varying forms and address different aspects of the programming effort. No attempt will be made in the proposal guidelines to specify the form or style of these agreements.

However, Section IV of the Joint/Cooperative Program Proposal will require that the participating colleges describe in detail any existing or planned agreements. A signed memorandum of understanding or agreement will provide evidence that external groups and organizations are supportive of the program proposal. When feasible, such agreements should be obtained and submitted along with the proposal and will be treated as supportive documentation.

Program Costs

The cost of initiating a joint or cooperative program must be carefully considered as in many cases these programs will be those which are equipment intensive, low enrollment--laboratory oriented and which have a low student to faculty ratio. Additionally, these programs may be so designed to be non-traditional in their instructional methodologies and may require above-guidelines staffing or funding.

While joint and cooperative programming is seen as an enhancement to the community college system and participating colleges and their communities, and while resource conservation may be a reality when comparisons are made to the cost of conventional or individual college programming, this type of curricula planning is not a solution to the current rising costs and dwindling resources problem. At best, the joint and cooperative programming approach may permit participating colleges to offer their citizens educational opportunities not otherwise possible if conventional planning were the rule. In fact, joint and cooperative programming may cause, and most likely will cause, operating costs to increase, but, possibly at a reduced rate than if each of the participating colleges were to have a fully staffed and equipped program.

Section V of the Joint/Cooperative Program Proposal will require a collaborative financial statement by the participating colleges with a concluding sub-section requiring a breakout of costs by college.

Duplicate Proposals

When two or more colleges request the same joint or cooperative program, and where preliminary discussions between the colleges and the VCCS instructional programs staff cannot resolve the related issues, the duplicate program proposals will be submitted to the Academic and Student Affairs Committee of the Advisory Council of Presidents for a recommendation to the Advisory Council of Presidents and the Chancellor.

Proposal Completion Requirements

Collaborating institutions must cooperatively complete a single Joint/Cooperative Proposal Form to be submitted to the VCCS instructional programs staff. Care must be taken in completing the proposal to clearly specify institutional responsibilities and intentions.

JOINT/COOPERATIVE PROPOSAL FORM

Section I.

---

1. Names of Collaborating Institutions
A. ____________________ C. ____________________ E. ____________________
B. ____________________ D. ____________________ F. ____________________

---

2. Title of Proposed Program

---

3. Degree Title and Abbreviation	4. SCHEV-NCES Code Number
5. Term and Year of Initiation	6. Term and Year First Graduates Expected
7. Date Approved by Local Board	8. Joint or Cooperative Program (Specify)

9. If cooperative program, specify award granting institution

---

10. Check where appropriate:

New award program proposal for all participating institutions ______

New award program proposal for some participating institutions ______
Specify institution(s) ____

New degree program major for all participating institutions ______

New degree program major for some participating institutions ______
Specify institution(s) ____

---

11. Copy of Curriculum and Catalog Entry Narrative Attached Yes______ No______
If no, explain ____

---

12. Copy of Curriculum Advisory Committee Attached Yes______ No______
If no, explain ____

---

13. VCCS 102's Attached Yes______ No______
If no, explain ____

---

14. Presidents of collaborating institutions must sign below which signifies that the information and estimates contained herein are complete and accurate to the best of current knowledge and the offering of the program is consistent with the college's master plan. Additionally, each signing president acknowledges that he/she has read and agrees with the details of the proposal.

____________________ President's Name	____________________ President's Name	____________________ President's Name
____________________ President's Name	____________________ President's Name	____________________ President's Name

TO BE COMPLETED BY VCCS STAFF:

1. Date Received	2. VCCS Staff Reviewers
3. VCCS Action	4. Date of VCCS Action

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SECTION II

Enrollment

1. Project below the FTE student enrollment which will be accommodated by joint or cooperative program. Supplement the chart below with a SCHEV P-10 form indicating enrollments for the first six years of the program.

FTES ENROLLMENT STATUS

Colleges	Year 1 19___			Year 2 19___			Year 3 19___			Year 4 19___			Year 5 19___			Year 6 19___		
	FTE	FT	PT	FTE	FT	PT	FTE	FT	PT	FTE	FT	PT	FTE	FT	PT	FTE	FT	PT
College A																		
College B																		
College C																		
College D																		
College E																		
College F																		
Total																		

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2. Identify the geographical area from which students would be expected to come to enroll in the proposed program.

3. Describe any enrollment arrangements including such things as reserving spaces for out-of-area students.

4. Describe plans to assist students with comprehensive student support services.

SECTION III

Geographical Demographics/Employment Opportunities

1. Describe the geographical area served by the proposed program and explain why this geographical area is particularly suitable for this program. Include information regarding such things as population data, income per capita, transportation systems, types of business and industry, counties and cities included, types of commerce and trade, manpower requirements, socio-economic factors of population, and/or any competing private or public educational/training/apprenticeship organizations offering a similar or like program.
2. Compare the manpower requirements of the geographical area served with those of the state. Complete the chart below.

Projected Employment Opportunities	YEAR											
	First 19__		Second 19__		Third 19__		Fourth 19__		Fifth 19__		Sixth 19__	
	**Rep	New	Rep	New	Rep	New	Rep	New	Rep	New	Rep	New
Geographical Area Served												
Additional State*												
Additional National (Optional)												
Sub Total												
Grand Total												

*Identify by city or county name any heavy clustering of employment opportunities found outside the geographical area served. ______________________________

____

**Replacement

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SECTION IV

Mutually Beneficial Agreements

1. Please list below organizations and institutions with which agreements will be or have been developed and describe the derived benefit to the participating colleges. Be sure to include any articulation agreements with secondary and post-secondary institutions.

SECTION V

Program Costs

Institutions proposing cooperative or joint programs must agree upon a formula for distributing the costs. Projected program cost should reflect as accurately as possible resource utilization of all types. Only then, can realistic decisions be made about program implementation and management.

1. Using the Cost Analysis Worksheet and Virginia Information Exchange Procedures (VAIEP) cost data, project the cost of the proposed program for an average FTE student. Please identify the year of the VAIEP cost data utilized.

COST ANALYSIS WORKSHEET FOR AVERAGE FTE STUDENT

Discipline Division	Course Level	Typical Annual FTE Student Course Load (in Credit Hours)	Direct Cost per Credit Hour	Average Discipline Costs
	Total Credit Hours---->		Average Annual Cost per FTE Student---->	

Program Cost per Credit Hour (total average discipline costs divided by total credit hours) . . . $__________

2. Estimate other costs of the proposed program by providing the following information:

A. Projected Annual Operating Budget Requirements

	1st year	2nd year
(1) Number of FTE Faculty		
Cost	$	
(2) Number of Classified Positions		
Cost	$	
(3) Additional leased or rented space costs	$	
(4) Additional educational or office equipment (yearly purchases or leases)	$	
(5) **Additional learning resources/** library costs	$	
(6) Additional computer hardware, software, and/or operating costs	$	
(7) Other recurring expenses (Describe)	$	
(8) Total	$	

(9) Describe any operating budget requests for this program which would exceed normal operating budget guidelines and procedures.

(10) **Identify by parenthetical entry** the resources identified above that are currently **in place** or, **by utilizing currently** approved appropriations, **will be in** place before **program initiation.**

B. Projected One-Time Expenditures

(1) New Construction $ ______

(2) Renovation or Conversion $ ______

(3) Equipment (not included in A-4 above) $ ______

(4) Library purchases (initial and not included in A-5 above) $ ______

(5) Computer hardware or software (not included in A-6 above) $ ______

(6) Other (Describe) $ ______

(7) Total $ ______

(8) Identify by parenthetical entry the resources identified above that are current in place or, by utilizing currently approved appropriations, will be in place before program initiation.

C. Will a Capital Outlay request in support of this program be forthcoming? Describe if Yes.

D. Is each type of space for the proposed program within projected guidelines? Explain if No.

E. If the program is approved, will the institution(s) submit an addendum budget request:

(1) to cover additional recurring costs? Yes ____ No ____

(2) to cover additional one-time costs? Yes ____ No ____

3. Describe how the program costs identified in 1 and 2 above will be distributed between participating institutions.

Appendix F

DESCRIPTION AND LIMITATIONS OF OCCUPATIONAL DEMAND AND SUPPLY DATA

DESCRIPTION AND LIMITATIONS OF OCCUPATIONAL DEMAND AND SUPPLY DATA

OCCUPATIONAL MANPOWER DEMAND AND SUPPLY (STATEWIDE)

(Sample)

PROGRAMS	OIS OCCUPATIONS[a]	1976-1982 AVE. ANNUAL OPENINGS STATE OF VA.[b]	1979-80 SUPPLY[c] VCCS	ALL SOURCES	COMMENTS
BUSINESS OFFICE OFFICE ADMIN. & MGT.	ACCOUNTING & AUDITING CLERKS BOOKKEEPERS BANK TELLERS FINANCE OFFICERS UNDERWRITERS	3090	306	2900	

DESCRIPTIONS AND LIMITATIONS:

[a] Occupations - Occupational titles from the VOICC, Virginia Occupational Demand, Supply and Wage Information publication (1981) that are associated with VCCS Educational programs.

[b] Estimated Average Annual Job Openings for the State of Virginia (1976-1982) including growth and replacement due to death and retirement. Openings due to labor turnover and occupational and geographical mobility are not included. Data is from the Occupational Employment Statistics (OES) Program managed by the Virginia Employment Commission in cooperation with Federal agencies. The data is based on OES surveys of industries conducted in 1974-76. The data does not cover all classes of workers or industries, and coverage of agriculture, forestry and fishing industries is minimal.

[c] Supply data reflects the number of completers of educational programs in 1979-80 as reported by various agencies and institutions in Virginia and compiled in the 1981 VOICC publication, Virginia Occupational Demand, Supply, and Wage Information. The VCCS SUPPLY category reflects total completers from certificate, diploma and associate degree programs. The ALL SOURCES category incorporates all completers reported from apprenticeship programs, secondary vocational education programs, adult vocational education programs, proprietary school programs, and public and private colleges offering certificate, diploma and associate degree level programs. The data does not reflect the supply of those who left educational programs prior to completion with marketable job entry skills, and also does not reflect potential supply provided through business/industry training, transfer from other occupations, home study training, armed forces training programs, immigration, and those receiving training in related fields e.g., math graduates who enter data processing occupations.

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Appendix G

PROGRAM EMPHASIS OF EXISTING AND PROPOSED EDUCATIONAL PROGRAMS BY VCCS COLLEGES BY PROGRAM CLUSTER

PROGRAM EMPHASIS OF EXISTING EDUCATIONAL PROGRAMS BY VCCS COLLEGE BY PROGRAM CLUSTER*

College	College Transfer			Agric. & Nat. Res. Tech.		Arts & Design Tech.		Business Technology		Engineering/ Industrial Technology		Health Technology		Public Service Technology	
	AA	AS	ASA	AAS	D/C	AAS	D/C	AAS	D/C	AAS	D/C	AAS	D/C	AAS	D/C
BRCC	0	0	5	2	0	1	0	5	4	2	5	1	0	1	2
CVCC	1	5	0	0	1	1	0	6	6	4	7	3	1	3	5
DSLCC	1	4	5	2	0	0	0	2	8	2	3	1	0	1	2
DCC	1	4	5	0	0	0	1	5	2	0	10	0	2	1	2
ESCC	1	4	5	0	0	0	0	2	2	1	3	0	0	0	0
GCC	0	0	5	0	0	0	0	4	2	2	6	1	0	1	1
JSRCC	1	4	0	2	2	0	0	8	17	5	7	5	2	4	3
JTCC	1	4	0	0	0	0	0	5	3	7	5	3	0	2	2
LFCC	0	0	4	1	3	0	0	3	1	1	4	0	0	2	2
MECC	0	0	5	0	0	0	0	2	1	3	5	2	1	0	3
NRCC	1	4	0	0	0	0	0	4	12	7	11	0	1	2	8
NVCC	3	6	0	2	0	2	0	11	8	11	18	10	3	7	5
PHCC	1	4	0	0	0	0	0	3	6	0	7	1	1	0	2
PDCCC	0	4	5	2	0	0	0	2	4	2	7	0	0	1	5
PVCC	2	4	0	0	0	0	1	5	2	0	7	2	1	2	3
RCC	0	0	4	0	0	0	0	2	2	4	4	1	0	1	2
SsVCC	0	0	5	0	0	0	0	2	5	2	14	0	0	3	4
SwVCC	2	5	0	0	0	0	0	3	5	3	5	2	1	0	3
TNCC	2	5	0	0	0	1	0	6	4	7	8	3	0	4	9
TCC	3	5	0	1	0	3	1	9	9	4	25	4	2	7	8
VHCC	1	4	0	0	0	1	0	3	2	3	6	2	0	2	3
VWCC	2	5	0	1	0	0	0	6	8	5	8	4	2	3	3
WCC	2	4	0	1	1	0	0	6	4	4	6	4	3	1	3
Total	25	75	48	14	7	9	3	104	117	79	181	49	20	48	80

*Programs offered by VCCS Colleges during 1981-82. Source: 1981-82 VCCS Curricular Matrix of Existing Programs and Proposed Programs for 1982-90.

PROGRAM EMPHASIS OF PROPOSED EDUCATIONAL PROGRAMS BY VCCS COLLEGE BY PROGRAM CLUSTER*

College	College Transfer			Agric. & Nat. Res. Tech.		Arts & Design Tech.		Business Technology		Engineering/ Industrial Technology		Health Technology		Public Service Technology	
	AA	AS	ASA	AAS	D/C	AAS	D/C	AAS	D/C	AAS	D/C	AAS	D/C	AAS	D/C
BRCC	0	0	0	1	0	0	0	1	4	2	10	1	1	0	6
CVCC	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
DSLCC	0	0	0	0	0	0	0	2	3	1	3	0	1	0	1
DCC	0	0	0	0	0	0	0	1	2	1	4	0	0	0	1
ESCC	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0
GCC	0	0	0	1	0	0	0	2	0	1	0	3	0	1	0
JSRCC	0	0	0	0	0	0	2	0	2	2	4	2	1	0	4
JTCC	0	0	0	0	0	1	0	1	0	1	0	0	0	0	0
LFCC	0	0	0	1	0	1	0	0	1	2	2	0	0	0	0
MECC	0	0	0	0	1	0	0	1	0	2	3	1	1	1	0
NRCC	0	0	0	1	0	0	0	4	1	2	6	0	2	2	1
NVCC	1	0	0	0	0	1	0	1	0	0	2	1	0	0	0
PHCC	0	0	0	0	0	0	0	6	0	7	3	3	1	4	0
PDCCC	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0
PVCC	0	0	0	0	0	0	0	3	1	4	0	2	2	2	0
RCC	0	0	0	1	2	0	0	1	1	0	1	0	2	0	1
SsVCC	0	0	0	1	0	0	0	1	1	0	0	1	0	0	1
SwVCC	0	0	0	0	0	0	0	1	3	3	4	2	0	0	0
TNCC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TCC	1	0	0	1	0	0	0	2	0	6	0	3	0	3	1
VHCC	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
VWCC	2	1	0	0	0	0	0	0	0	1	0	5	0	1	0
WCC	0	0	0	0	0	0	0	1	0	4	2	1	0	1	0
Total	4	1	0	8	3	4	2	29	19	40	47	25	12	15	16

*Programs proposed for 1982-90. Source: 1981-82 VCCS Curricular Matrix of Existing Programs and Proposed Programs for 1982-90.

Appendix H

VCCS 2-B ENROLLMENT PROJECTIONS

1981-82 TO 1985-86

VCCS 2-B ENROLLMENT PROJECTIONS
1981-82 TO 1985-86 **SEE NOTES**

	ACTUAL		ESTIMATED				PROJECTED			
	1981-82		1982-83		1983-84		1984-85		1985-86	
	NUM	%INC	NUM	%INC	NUM	%INC	NUM	%INC	NUM	%INC
BRCC										
FALL ON-CAMPUS HEADCOUNT	2094		1911	-8.7	2030	6.2	2066	1.8	2090	1.2
FALL OFF-CAMPUS HEADCOUNT	131		106	-19.1	130	22.6	145	11.5	155	6.9
FALL HEADCOUNT	2225		2017	-9.3	2160	7.1	2211	2.4	2245	1.5
SUMMER HEADCOUNT	620		602	-2.9	640	6.3	660	3.1	695	5.3
REGULAR SESSION FTES	1081		1006	-6.9	1022	1.6	1044	2.2	1063	1.8
OFF-CAMPUS FTES	24		22	-8.3	26	18.2	29	11.5	31	6.9
SUMMER FTES	61		65	6.6	67	3.1	69	3.0	77	11.6
ANNUAL FTES	1166		1093	-6.3	1115	2.0	1142	2.4	1171	2.5
CVCC										
FALL ON-CAMPUS HEADCOUNT	3592		3367	-6.3	3562	5.8	3632	2.0	3677	1.2
FALL OFF-CAMPUS HEADCOUNT	455		316	-30.5	455	44.0	465	2.2	465	0.0
FALL HEADCOUNT	4047		3683	-9.0	4017	9.1	4097	2.0	4142	1.1
SUMMER HEADCOUNT	1558		1486	-4.6	1493	0.5	1500	0.5	1500	0.0
REGULAR SESSION FTES	1742		1664	-4.5	1697	2.0	1748	3.0	1765	1.0
OFF-CAMPUS FTES	128		121	-5.5	123	1.7	127	3.3	128	0.8
SUMMER FTES	167		165	-1.2	161	-2.4	165	2.5	167	1.2
ANNUAL FTES	2037		1950	-4.3	1981	1.6	2040	3.0	2060	1.0
DSLC										
FALL ON-CAMPUS HEADCOUNT	1077		849	-21.2	857	0.9	894	4.3	932	4.3
FALL OFF-CAMPUS HEADCOUNT	109		72	-33.9	72	0.0	72	0.0	72	0.0
FALL HEADCOUNT	1186		921	-22.3	929	0.9	966	4.0	1004	3.9
SUMMER HEADCOUNT	600		411	-31.5	436	6.1	436	0.0	436	0.0
REGULAR SESSION FTES	650		555	-14.6	560	0.9	584	4.3	609	4.3
OFF-CAMPUS FTES	40		35	-12.5	35	0.0	35	0.0	35	0.0
SUMMER FTES	93		70	-24.7	70	0.0	70	0.0	70	0.0
ANNUAL FTES	783		660	-15.7	665	0.8	689	3.6	714	3.6
DCC										
FALL ON-CAMPUS HEADCOUNT	2466		2218	-10.1	2227	0.4	2298	3.2	2347	2.1
FALL OFF-CAMPUS HEADCOUNT	136		159	16.9	143	-10.1	148	3.5	151	2.0
FALL HEADCOUNT	2602		2377	-8.6	2370	-0.3	2446	3.2	2498	2.1
SUMMER HEADCOUNT	1131		1057	-6.5	1006	-4.8	1029	2.3	1041	1.2
REGULAR SESSION FTES	1693		1584	-6.4	1630	2.9	1650	1.2	1665	0.9
OFF-CAMPUS FTES	33		45	36.4	50	11.1	50	0.0	55	10.0
SUMMER FTES	260		241	-7.3	240	-0.4	255	6.3	260	2.0
ANNUAL FTES	1986		1870	-5.8	1920	2.7	1955	1.8	1980	1.3
ESCC										
FALL ON-CAMPUS HEADCOUNT	421		345	-18.1	390	13.0	390	0.0	390	0.0
FALL OFF-CAMPUS HEADCOUNT	18		0	-100.0	50	.	50	0.0	50	0.0
FALL HEADCOUNT	439		345	-21.4	440	27.5	440	0.0	440	0.0
SUMMER HEADCOUNT	146		246	68.5	241	-2.0	248	2.9	248	0.0
REGULAR SESSION FTES	214		188	-12.1	210	11.7	210	0.0	210	0.0
OFF-CAMPUS FTES	3		7	133.3	10	42.9	10	0.0	10	0.0
SUMMER FTES	20		20	0.0	20	0.0	20	0.0	20	0.0
ANNUAL FTES	237		215	-9.3	240	11.6	240	0.0	240	0.0

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VCCS 2-8 ENROLLMENT PROJECTIONS
1981-82 TO 1985-86 **SEE NOTES**

	ACTUAL		ESTIMATED				PROJECTED			
	1981-82		1982-83		1983-84		1984-85		1985-86	
	NUM	%INC	NUM	%INC	NUM	%INC	NUM	%INC	NUM	%INC
GCC										
FALL ON-CAMPUS HEADCOUNT	1560		1641	5.2	1696	3.4	1820	7.3	1920	5.5
FALL OFF-CAMPUS HEADCOUNT	0		0	.	125	.	125	0.0	125	0.0
FALL HEADCOUNT	1560		1641	5.2	1821	11.0	1945	6.8	2045	5.1
SUMMER HEADCOUNT	216		489	126.4	524	7.2	558	6.5	590	5.7
REGULAR SESSION FTES	684		703	2.8	730	3.8	777	6.4	811	4.4
OFF-CAMPUS FTES	0		25	.	25	0.0	25	0.0	25	0.0
SUMMER FTES	23		62	169.6	75	21.0	98	30.7	114	16.3
ANNUAL FTES	707		790	11.7	830	5.1	900	8.4	950	5.6
JSRC										
FALL ON-CAMPUS HEADCOUNT	10094		10162	0.7	10732	5.6	11036	2.8	11341	2.8
FALL OFF-CAMPUS HEADCOUNT	0		0	.	0	.	0	.	0	.
FALL HEADCOUNT	10094		10162	0.7	10732	5.6	11036	2.8	11341	2.8
SUMMER HEADCOUNT	4523		4473	-1.1	4638	3.7	4769	2.8	4899	2.7
REGULAR SESSION FTES	4422		4583	3.6	4722	3.0	4856	2.8	4990	2.8
OFF-CAMPUS FTES	1		0	-100.0	0	.	0	.	0	.
SUMMER FTES	572		562	-1.7	578	2.8	594	2.8	610	2.7
ANNUAL FTES	4995		5145	3.0	5300	3.0	5450	2.8	5600	2.8
JTCC										
FALL ON-CAMPUS HEADCOUNT	3659		3651	-0.2	3724	2.0	3797	2.0	3873	2.0
FALL OFF-CAMPUS HEADCOUNT	611		369	-39.6	427	15.7	494	15.7	498	0.8
FALL HEADCOUNT	4270		4020	-5.9	4151	3.3	4291	3.4	4371	1.9
SUMMER HEADCOUNT	1701		1576	-7.3	1928	22.3	1966	2.0	2006	2.0
REGULAR SESSION FTES	1758		1879	6.9	1895	0.9	1933	2.0	1972	2.0
OFF-CAMPUS FTES	229		139	-39.3	145	4.3	149	2.8	151	1.3
SUMMER FTES	248		232	-6.5	255	9.9	259	1.6	265	2.3
ANNUAL FTES	2235		2250	0.7	2295	2.0	2341	2.0	2388	2.0
LFCC										
FALL ON-CAMPUS HEADCOUNT	1871		1646	-12.0	1938	17.7	1978	2.1	1997	1.0
FALL OFF-CAMPUS HEADCOUNT	86		117	36.0	89	-23.9	90	1.1	91	1.1
FALL HEADCOUNT	1957		1763	-9.9	2027	15.0	2068	2.0	2088	1.0
SUMMER HEADCOUNT	419		468	11.7	433	-7.5	442	2.1	446	0.9
REGULAR SESSION FTES	829		837	1.0	859	2.6	878	2.2	886	0.9
OFF-CAMPUS FTES	12		10	-16.7	10	0.0	10	0.0	10	0.0
SUMMER FTES	50		53	6.0	54	1.9	54	0.0	55	1.9
ANNUAL FTES	891		900	1.0	923	2.6	942	2.1	951	1.0
MECC										
FALL ON-CAMPUS HEADCOUNT	2586		1482	-42.7	2048	38.2	2099	2.5	2116	0.8
FALL OFF-CAMPUS HEADCOUNT	363		532	46.6	553	3.9	553	0.0	553	0.0
FALL HEADCOUNT	2949		2014	-31.7	2601	29.1	2652	2.0	2669	0.6
SUMMER HEADCOUNT	1093		1068	-2.3	1275	19.4	1275	0.0	1275	0.0
REGULAR SESSION FTES	885		852	-3.7	871	2.2	911	4.6	921	1.1
OFF-CAMPUS FTES	161		212	31.7	212	0.0	212	0.0	212	0.0
SUMMER FTES	143		136	-4.9	137	0.7	137	0.0	137	0.0
ANNUAL FTES	1189		1200	0.9	1220	1.7	1260	3.3	1270	0.8

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VCCS 2-B ENROLLMENT PROJECTIONS
1981-82 TO 1985-86 **SEE NOTES**

	ACTUAL		ESTIMATED				PROJECTED			
	1981-82		1982-83		1983-84		1984-85		1985-86	
	NUM	%INC	NUM	%INC	NUM	%INC	NUM	%INC	NUM	%INC
NRCC										
FALL ON-CAMPUS HEADCOUNT	2691		2821	4.8	2686	-4.8	2769	3.1	2827	2.1
FALL OFF-CAMPUS HEADCOUNT	294		223	-24.1	293	31.4	303	3.4	309	2.0
FALL HEADCOUNT	2985		3044	2.0	2979	-2.1	3072	3.1	3136	2.1
SUMMER HEADCOUNT	1003		856	-14.7	1001	16.9	1032	3.1	1054	2.1
REGULAR SESSION FTES	1478		1423	-3.7	1475	3.7	1521	3.1	1553	2.1
OFF-CAMPUS FTES	58		56	-3.4	58	3.6	60	3.4	61	1.7
SUMMER FTES	147		141	-4.1	147	4.3	151	2.7	154	2.0
ANNUAL FTES	1683		1620	-3.7	1680	3.7	1732	3.1	1768	2.1
NVCC										
FALL ON-CAMPUS HEADCOUNT	34387		33519	-2.5	35064	4.6	36120	3.0	37213	3.0
FALL OFF-CAMPUS HEADCOUNT	545		716	31.4	534	-25.4	550	3.0	567	3.1
FALL HEADCOUNT	34932		34235	-2.0	35598	4.0	36670	3.0	37780	3.0
SUMMER HEADCOUNT	10087		14695	45.7	15744	7.1	16221	3.0	16706	3.0
REGULAR SESSION FTES	16113		16056	-0.4	16444	2.4	16936	3.0	17445	3.0
OFF-CAMPUS FTES	175		181	3.4	186	2.8	192	3.2	197	2.6
SUMMER FTES	1983		1863	-6.1	2013	8.1	2074	3.0	2136	3.0
ANNUAL FTES	18271		18100	-0.9	18643	3.0	19202	3.0	19778	3.0
PHCC										
FALL ON-CAMPUS HEADCOUNT	1442		1290	-10.5	1400	8.5	1445	3.2	1463	1.2
FALL OFF-CAMPUS HEADCOUNT	43		54	25.6	34	-37.0	38	11.8	37	-2.6
FALL HEADCOUNT	1485		1344	-9.5	1434	6.7	1483	3.4	1500	1.1
SUMMER HEADCOUNT	579		563	-2.8	575	2.1	594	3.3	605	1.9
REGULAR SESSION FTES	708		652	-7.9	678	4.0	700	3.2	708	1.1
OFF-CAMPUS FTES	17		15	-11.8	15	0.0	16	6.7	16	0.0
SUMMER FTES	79		74	-6.3	77	4.1	79	2.6	81	2.5
ANNUAL FTES	804		741	-7.8	770	3.9	795	3.2	805	1.3
PDCC										
FALL ON-CAMPUS HEADCOUNT	766		624	-18.5	650	4.2	660	1.5	665	0.8
FALL OFF-CAMPUS HEADCOUNT	305		491	61.0	500	1.8	509	1.8	518	1.8
FALL HEADCOUNT	1071		1115	4.1	1150	3.1	1169	1.7	1183	1.2
SUMMER HEADCOUNT	478		364	-23.8	527	44.8	545	3.4	550	0.9
REGULAR SESSION FTES	455		378	-16.9	385	1.9	395	2.6	400	1.3
OFF-CAMPUS FTES	165		246	45.1	250	1.6	255	2.0	260	2.0
SUMMER FTES	93		85	-8.6	85	0.0	80	-5.9	80	0.0
ANNUAL FTES	713		709	-0.6	720	1.6	730	1.4	740	1.4
PVCC										
FALL ON-CAMPUS HEADCOUNT	2875		2721	-5.4	2895	6.4	2938	1.5	2982	1.5
FALL OFF-CAMPUS HEADCOUNT	840		627	-25.4	652	4.0	661	1.4	667	0.9
FALL HEADCOUNT	3715		3348	-9.9	3547	5.9	3599	1.5	3649	1.4
SUMMER HEADCOUNT	1165		1042	-10.5	1050	0.8	1065	1.4	1082	1.6
REGULAR SESSION FTES	1347		1330	-1.3	1354	1.8	1374	1.5	1395	1.5
OFF-CAMPUS FTES	185		197	6.5	204	3.6	207	1.5	209	1.0
SUMMER FTES	150		133	-11.3	135	1.5	137	1.5	140	2.2
ANNUAL FTES	1682		1660	-1.3	1693	2.0	1718	1.5	1744	1.5

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VCCS 2-B ENROLLMENT PROJECTIONS
1981-82 TO 1985-86 **SEE NOTES**

	ACTUAL		ESTIMATED				PROJECTED			
	1981-82		1982-83		1983-84		1984-85		1985-86	
	NUM	%INC	NUM	%INC	NUM	%INC	NUM	%INC	NUM	%INC
RCC										
FALL ON-CAMPUS HEADCOUNT	1062		1102	3.8	1150	4.4	1175	2.2	1210	3.0
FALL OFF-CAMPUS HEADCOUNT	260		157	-39.6	230	46.5	244	6.1	260	6.6
FALL HEADCOUNT	1322		1259	-4.8	1380	9.6	1419	2.8	1470	3.6
SUMMER HEADCOUNT	339		255	-24.8	320	25.5	333	4.1	340	2.1
REGULAR SESSION FTES	605		628	3.8	623	-0.8	625	0.3	627	0.3
OFF-CAMPUS FTES	51		38	-25.5	45	18.4	48	6.7	51	6.3
SUMMER FTES	48		33	-31.3	41	24.2	43	4.9	45	4.7
ANNUAL FTES	704		699	-0.7	709	1.4	716	1.0	723	1.0
SSVC										
FALL ON-CAMPUS HEADCOUNT	1140		979	-14.1	979	0.0	1053	7.6	1109	5.3
FALL OFF-CAMPUS HEADCOUNT	431		277	-35.7	279	0.7	300	7.5	316	5.3
FALL HEADCOUNT	1571		1256	-20.1	1258	0.2	1353	7.6	1425	5.3
SUMMER HEADCOUNT	528		352	-33.3	352	0.0	378	7.4	398	5.3
REGULAR SESSION FTES	769		743	-3.4	743	0.0	762	2.6	774	1.6
OFF-CAMPUS FTES	136		112	-17.6	112	0.0	111	-0.9	111	0.0
SUMMER FTES	76		45	-40.8	45	0.0	47	4.4	50	6.4
ANNUAL FTES	981		900	-8.3	900	0.0	920	2.2	935	1.6
SWVC										
FALL ON-CAMPUS HEADCOUNT	3202		2294	-28.4	2646	15.3	2778	5.0	2917	5.0
FALL OFF-CAMPUS HEADCOUNT	545		389	-28.6	402	3.3	415	3.2	424	2.2
FALL HEADCOUNT	3747		2683	-28.4	3048	13.6	3193	4.8	3341	4.6
SUMMER HEADCOUNT	1257		1143	-9.1	1206	5.5	1267	5.1	1330	5.0
REGULAR SESSION FTES	1427		1436	0.6	1488	3.6	1542	3.6	1581	2.5
OFF-CAMPUS FTES	145		90	-37.9	93	3.3	96	3.2	98	2.1
SUMMER FTES	225		174	-22.7	179	2.9	184	2.8	189	2.7
ANNUAL FTES	1797		1700	-5.4	1760	3.5	1822	3.5	1868	2.5
TNCC										
FALL ON-CAMPUS HEADCOUNT	5849		5587	-4.5	5806	3.9	5885	1.4	5947	1.1
FALL OFF-CAMPUS HEADCOUNT	781		697	-10.8	792	13.6	803	1.4	808	0.6
FALL HEADCOUNT	6630		6284	-5.2	6598	5.0	6688	1.4	6755	1.0
SUMMER HEADCOUNT	2779		2497	-10.1	2706	8.4	2746	1.5	2772	0.9
REGULAR SESSION FTES	3100		3036	-2.1	3057	0.7	3098	1.3	3130	1.0
OFF-CAMPUS FTES	316		320	1.3	302	-5.6	306	1.3	309	1.0
SUMMER FTES	425		369	-13.2	415	12.5	421	1.4	425	1.0
ANNUAL FTES	3841		3725	-3.0	3774	1.3	3825	1.4	3864	1.0
TCC										
FALL ON-CAMPUS HEADCOUNT	15660		14625	-6.6	15600	6.7	15975	2.4	16400	2.7
FALL OFF-CAMPUS HEADCOUNT	353		410	16.1	400	-2.4	425	6.3	450	5.9
FALL HEADCOUNT	16013		15035	-6.1	16000	6.4	16400	2.5	16850	2.7
SUMMER HEADCOUNT	6501		6143	-5.5	6490	5.6	6785	4.5	7080	4.3
REGULAR SESSION FTES	7928		7699	-2.9	7851	2.0	8020	2.2	8193	2.2
OFF-CAMPUS FTES	118		110	-6.8	120	9.1	128	6.7	137	7.0
SUMMER FTES	1083		1041	-3.9	1100	5.7	1150	4.5	1200	4.3
ANNUAL FTES	9129		8850	-3.1	9071	2.5	9298	2.5	9530	2.5

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VCCS 2-B ENROLLMENT PROJECTIONS
1981-82 TO 1985-86 **SEE NOTES**

	ACTUAL		ESTIMATED				PROJECTED			
	1981-82		1982-83		1983-84		1984-85		1985-86	
	NUM	%INC	NUM	%INC	NUM	%INC	NUM	%INC	NUM	%INC
VHCC										
FALL ON-CAMPUS HEADCOUNT	1385		1372	-0.9	1422	3.6	1472	3.5	1524	3.5
FALL OFF-CAMPUS HEADCOUNT	17		66	288.2	80	21.2	96	20.0	120	25.0
FALL HEADCOUNT	1402		1438	2.6	1502	4.5	1568	4.4	1644	4.8
SUMMER HEADCOUNT	355		373	5.1	380	1.9	388	2.1	388	0.0
REGULAR SESSION FTES	975		976	0.1	1012	3.7	1048	3.6	1085	3.5
OFF-CAMPUS FTES	11		8	-27.3	10	25.0	12	20.0	15	25.0
SUMMER FTES	77		76	-1.3	78	2.6	80	2.6	80	0.0
ANNUAL FTES	1063		1060	-0.3	1100	3.8	1140	3.6	1180	3.5
VWCC										
FALL ON-CAMPUS HEADCOUNT	5716		5335	-6.7	5600	5.0	5800	3.6	6000	3.4
FALL OFF-CAMPUS HEADCOUNT	339		143	-57.8	339	137.1	490	44.5	500	2.0
FALL HEADCOUNT	6055		5478	-9.5	5939	8.4	6290	5.9	6500	3.3
SUMMER HEADCOUNT	2321		2094	-9.8	2200	5.1	2300	4.5	2400	4.3
REGULAR SESSION FTES	2945		2758	-6.3	2850	3.3	2935	3.0	3000	2.2
OFF-CAMPUS FTES	32		32	0.0	32	0.0	50	56.3	50	0.0
SUMMER FTES	370		320	-13.5	350	9.4	365	4.3	380	4.1
ANNUAL FTES	3347		3110	-7.1	3232	3.9	3350	3.7	3430	2.4
WCC										
FALL ON-CAMPUS HEADCOUNT	1825		1552	-15.0	1661	7.0	1692	1.9	1723	1.8
FALL OFF-CAMPUS HEADCOUNT	0		0	.	0	.	0	.	0	.
FALL HEADCOUNT	1825		1552	-15.0	1661	7.0	1692	1.9	1723	1.8
SUMMER HEADCOUNT	909		879	-3.3	996	13.3	1014	1.8	1032	1.8
REGULAR SESSION FTES	1042		1035	-0.7	1042	0.7	1061	1.8	1081	1.9
OFF-CAMPUS FTES	0		0	.	0	.	0	.	0	.
SUMMER FTES	145		149	2.8	164	10.1	167	1.8	170	1.8
ANNUAL FTES	1187		1184	-0.3	1206	1.9	1228	1.8	1251	1.9
VCCS										
FALL ON-CAMPUS HEADCOUNT	107420		101093	-5.9	106763	5.6	109772	2.8	112663	2.6
FALL OFF-CAMPUS HEADCOUNT	6662		6046	-9.2	6579	8.8	6976	6.0	7136	2.3
FALL HEADCOUNT	114082		107139	-6.1	113342	5.8	116748	3.0	119799	2.6
SUMMER HEADCOUNT	40312		43132	7.0	46161	7.0	47551	3.0	48873	2.8
REGULAR SESSION FTES	52850		52001	-1.6	53158	2.3	54608	2.7	55864	2.3
OFF-CAMPUS FTES	2040		2021	-0.9	2063	2.1	2128	3.2	2171	2.0
SUMMER FTES	6538		6109	-6.6	6486	6.2	6699	3.3	6905	3.1
ANNUAL FTES	61428		60131	-2.1	61747	2.7	63435	2.7	64940	2.4

NOTES

SUMMER AND FALL HEADCOUNTS ARE ACTUAL FOR 1982
SUMMER HEADCOUNTS ARE ON-CAMPUS ONLY

Appendix I

VIRGINIA COMMUNITY COLLEGE SYSTEM
FACILITIES REVIEW AND APPROVAL PROCESS
OVERVIEW OF PAST INTERNAL PRACTICES

VIRGINIA COMMUNITY COLLEGE SYSTEM
FACILITIES REVIEW AND APPROVAL PROCESS
OVERVIEW OF PAST INTERNAL PRACTICES

The facilities review and approval process is really a process for planning and programming of facilities (Capital Outlay/Fixed Assets) needs, and the priority identification of requirements in funding requests and in the allocation of all resources provided. The facilities aspect is part of the larger budgetary and resource allocation process, and must be considered as an integral part of the overall Financial and Personnel chapter of the *VCCS Master Plan*, and be related intimately to the Enrollment Component. The facilities process might best be depicted by a listing of the entities within the Virginia Community College System which have a part in the process, along with the responsibilities of each of those entities.

The following listing shows what has been done in the past, and still is considered appropriate for application in the future in most respects. The aspects which appear to need strengthening relate primarily to refinements in the process, and include macro-type planning and guidance, under which Systemwide objectives are addressed to a greater extent than in the past, versus what has tended to be college peculiar micro-type planning for facilities aspects at local colleges. The current efforts in preparing a System Master Plan are consistent with greater emphasis in this area.

College

- Initial determination of need and requirements, consistent with the Educational Programs aspect of the *VCCS Master Plan*, the approved college Master Site Plan, SCHEV criteria and standards, approved enrollments, the Executive Branch, State Board and Chancellor guidance, and local considerations.
- Justification and documentation of needs, in accordance with the Commonwealth Planning and Budgeting System (DPB Manuals).
- Assessment and assignment of priorities among local needs.
- Review of proposed priorities with the Chancellor and System Offices staff.

College Board

- Review and approval of local college requests.
- Approval of assigned priorities for local college requests.
- Support for provision of local funds for meeting local college requirements.

Chancellor and System Offices Staff

- Collection and issuance of guidance and criteria from all appropriate sources, and from all appropriate aspects, after review and approval by the State Board.
- Review and approval of college requests and documentation.
- Assessment of System needs, and recommendation to State Board of priorities among college requests.
- Allocation of resources provided, consistent with State Board guidance.

State Board for Community Colleges

- Review of proposed criteria and provision of guidance applicable to Systemwide facilities needs and requests.
- Review and approval of requests from all colleges, as submitted by the Chancellor.
- Review and approval of priorities among all college requests, and the overall approval of the Community College System facilities funding requests to the Governor and General Assembly.
- Approval of resource allocation among colleges and for specified purposes within the college budgets, as presented by the Chancellor.

In general, the setting of priorities for facilities first has involved college application of existing annual resources in the Maintenance and Operations budgets to needs as each college assessed them, and then the application of criteria in the review and approval process outlined above for the determination of additional fund needs to meet priority objectives, including maintenance of facilities, replacement of equipment, and augmentation of the physical plant, as appropriate. The additional funding needs have been included in overall college and VCCS funding requests (Program Proposals).

For Capital Outlay/Fixed Asset Projects, the criteria for planning and programming facilities needs and setting VCCS facilities priorities have been based on the SCHEV guidelines and standards, with efforts being made to:

Respond to greatest need

- As indicated by application of SCHEV standards and guidelines, and taking into account total available permanent space, versus that total quantity allowed by the SCHEV guidelines (ASF/FTE and percent guideline deficient).

- As indicated by deficiencies in specific categories, versus the SCHEV standard or guideline, for which a project request is submitted (ASF/FTE and percent guideline deficient).

Give priority, in general, to instructional space requirements versus other space requirement, but striving for a balanced project containing needed space in all categories as appropriate.

Consider appropriateness of projects or requests, consistent with overall System objectives or needs.

Consider and assess alternatives to projects or requests which may satisfy minimum requirements at no greater cost, with acceptable risks or other aspects. This includes feasibility of using leased/shared space off-campus as the alternative to on-campus construction.

Involve efforts toward innovative and opportunistic satisfaction of needs, including funding from Federal government and private industry, and other possible sources such as surplus public school property.

Appendix J

SUMMARY OF INFORMATION AND NORMS
MAINTENANCE AND OPERATION OF PHYSICAL PLANT

SUMMARY OF INFORMATION AND NORMS
MAINTENANCE AND OPERATION OF PHYSICAL PLANT

The primary purpose of this section is to assist an institution in preparing a meaningful analysis of how its financial performance relates to peer group norms.

Comparisons help an institution to set performance goals, which may be planned in terms of budget proportions for various functions, including plant operations and maintenance, and/or staff patterns. The category of operation and maintenance of plant includes all expenditures for operations established to provide services and maintenance related to grounds and facilities. Also included are utilities, fire protection, property insurance and similar items.[1]

Recommended Expenditure for Operation/Maintenance of Plant as a Proportion of Total Education and General Expenditures (Excluding Auxiliaries and Transfers):

- Plant Operation and Maintenance (with utilities) - 12% to 15%.

Recommended Expenditures for Operation/Maintenance of Plant as a Cost per FTE:

- Plant Operation and Maintenance (with utilities) - $331 per FTE.

Recommended Staffing Levels for Building and Grounds Personnel:

Classification	Average Staffing Level
Building Maintenance Worker	1 Employee/72,000 sq.ft.
Custodial	1 Employee/17,000 sq.ft.

It is emphasized that the values listed above reflect representative averages most commonly used by agencies such as: American School and University, American Public Works Association, and National Association of College and University Business Officers. More refined staffing and/or budget needs is best obtained by identifying specific work to be performed and then determining the resources needed to perform the work based on expected rates of accomplishment. This effort is most effectively accomplished by a team of professional engineers possessing the necessary maintenance, structural, mechanical, and electrical expertise. Empirical data, accrued in the implementation of a pilot maintenance management program at four VCCS community colleges, indicates that performance of a pre-requisite facilities condition survey, and development and implementation of an effective maintenance management program, can be accomplished by a consulting engineering firm at an approximate median cost of $10,000 per campus.

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[1] Comparative financial statistics, for public, community and junior colleges, 1979 to 1980 (NACUBO Study).

Appendix K

MASTER PLAN FOR THE VIRGINIA COMMUNITY COLLEGE SYSTEM COMPUTING SERVICES (MAY 1981)

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MASTER PLAN FOR THE VIRGINIA COMMUNITY COLLEGE SYSTEM

COMPUTING SERVICES (May 1981)

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Appendix L

VCCS MASTER PLAN TASK FORCES

VCCS MASTER PLAN TASK FORCES

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